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Steven, L. [US/US]; 366 Sierra Vista Avenue, Unit #15, Mountain View, CA 94043 (US). MORTENSEN, Lance, H. [US/US]; 117 Warwick Court, Alamo, CA 94507 (US).

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(74) Agents: MALLIE, Michael, J. et al.; Blakely, Sokoloff, Taylor & Zafman LLP, 7th floor, 12400 Wilshire Boulevard, Los Angeles, CA 90025 (US).

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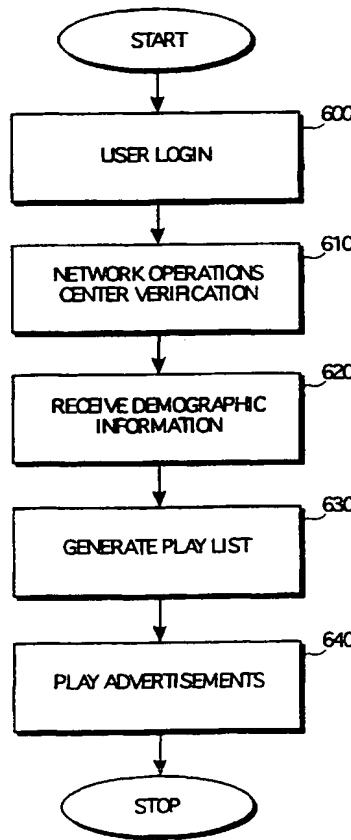
(71) Applicant (*for all designated States except US*): **ZAP ME!**
[US/US]; 3000 Executive Parkway, Suite 150, Sam Ramon, CA 94583 (US).

(72) Inventors; and

(75) Inventors/Applicants (*for US only*): **STRASNICK,**

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(57) Abstract: Methods and apparatus to provide advertising based on pre-computed sub-playlists (530) are described. The sub-playlists (530) are generated based on one or more demographic characteristics (620). One or more sub-playlists (530) are used to generate a playlist for a particular user or groups of users. In one embodiment, the sub-playlists (530) are generated at a network operations center or other location remote from the device on which the ultimate playlist (630) is displayed; however, the sub-playlists (530) can be generated locally or on a local network device. One or more sub-playlists (530) corresponding to the demographic characteristics (620) of a device user or group of users are combined to provide a playlist (630) for the user or group of users. The playlist (630) is displayed to the user or group of users.



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ADVERTISING BASED ON
PRE-COMPUTED DISTRIBUTED PLAYLISTS

The present U.S. Patent application is a continuation-in-part of U.S. Patent application number 09/227,476, filed January 8, 1999, entitled "MICRO-TARGETED ADVERTISING."

FIELD OF THE INVENTION

The present invention relates to advertising using networked devices. More particularly, the present invention relates to dynamic targeted advertising to users of networked devices.

BACKGROUND OF THE INVENTION

Typical advertisements take the form of broadcast advertisements. In other words individual advertisements (i.e., spots) are broadcast to multiple users/viewers/locations. The spots are typically linked to specific programming. For example, television advertisers purchase time during advertising breaks of specific programs, thereby targeting viewers attracted to the program during which one or more spots are purchased. Similarly, advertisers can purchase advertisement spots from Internet or on-line service providers (ISPs and OSPs) and/or World Wide Web pages, thereby targeting users of a particular ISP/OSP and users of a particular Web page, respectively.

In recent years, computer-based advertising has standardized the "Web Banner" format, which is static in nature in that an advertiser's spot is linked to, and embedded within, a specific Web page. However, viewers can easily "Scroll away" or ignore a banner spot. Another shortcoming of banner spots is that the duration of the impression is controlled by the viewer, who may click to another page before the banner is displayed.

Another shortcoming of the "Web Banner" format is that users can eliminate the presentation of graphical advertisements by "turning off" graphics in their browser settings. As a result, the advertiser is often charged for a "hit" or "impression" without any guarantee that the spot is viewed. Finally, a key problem facing Web advertising is the lack of a standardized, reliable metric of efficacy. Unlike TV or radio advertising that have established rating and demographic evaluation organizations (e.g. Nielson ratings), the Web has no such reliable measurement process.

One scheme that attempts to break the link between advertising and programming is disclosed in U.S. Patent No. 5,794,210 entitled "ATTENTION BROKERAGE" (the '210 Patent). The '210 Patent discloses concepts referred to as "negatively priced information" and "orthogonal sponsorship." Negatively priced information requires a participant to actively choose receive advertising. Orthogonal sponsorship breaks the link between advertising spots and programming by separating advertising spots from specific content for everyone receiving the content. In the advertising scheme disclosed in the '210 Patent, a user chooses to be subjected to advertising in order to receive an award. Thus, the '210 patent describes a system that is driven by individual user's explicit participation on a spot-by-spot basis.

In general, the incentive to view an individual advertisement as the result of incentives provided in accordance with the '210 Patent will often be insufficient to achieve significant success. The scheme of the '210 Patent is best suited to the limited audience of active consumers of a specific product. However, this audience is not the primary target of traditional "brand imaging" mass market advertisers. Indeed, it is sponsored content (linked) associations and the repeated presentation of brand image messages that creates the "brand awareness" and "brand associations" that mass market advertisers seek. Because the scheme disclosed in the '210 Patent requires active participation to begin involvement, the

distribution of participation may be less than desired by marketing parties, or cost per impression may be too high, or both.

SUMMARY OF THE INVENTION

A method and apparatus for generating a playlist is disclosed. The playlist can be used, for example, to play targeted advertisements or other digital content. Digital content is associated with one or more demographic characteristics to generate sub-playlists for the one or more demographic characteristics. One or more sub-playlists are combined to generate a user playlist based on a user's demographic characteristics. The digital content associated with the user playlist is displayed.

BRIEF DESCRIPTION OF THE DRAWINGS

The present invention is illustrated by way of example, and not by way of limitations in the figures of the accompanying drawings in which like reference numerals refer to similar elements.

Figure 1 illustrates one embodiment of a computer system.

Figure 2 illustrates one embodiment of a network configuration.

Figure 3 illustrates one embodiment of a network operations center coupled to a network.

Figure 4 illustrates one embodiment of a layout of a graphical user interface.

Figure 5 is one embodiment of a flow diagram for generating a sub-playlist.

Figure 6 is a flow diagram for generation of a playlist from sub-playlists according to one embodiment of the invention.

Figure 7 is a flow diagram of an advertisement script running within a client application according to one embodiment of the present invention.

DETAILED DESCRIPTION

A method and apparatus for targeted advertising is described. In the following description, for purposes of explanation, numerous specific details are set forth in order to provide a thorough understanding of the present invention. It will be apparent, however, to one skilled in the art that the present invention can be practiced without these specific details. In other instances, structures and devices are shown in block diagram form in order to avoid obscuring the present invention.

Reference in the specification to "one embodiment" or "an embodiment" means that a particular feature, structure, or characteristic described in connection with the embodiment is included in at least one embodiment of the invention. The appearances of the phrase "in one embodiment" in various places in the specification are not necessarily all referring to the same embodiment.

Methods and apparatuses to provide advertising or other digital content based on pre-computed sub-playlists are described. The sub-playlists are generated associated with one or more demographic characteristics. One or more sub-playlists are used to generate a playlist for a particular user or group of users. In one embodiment, the sub-playlists are generated at a network operations center or other location remote from the device on which the ultimate playlist is displayed; however, the sub-playlists can be generated locally or on a local network device. One or more sub-playlists corresponding to the demographic characteristics of a device user or group of users are combined to provide a playlist for the user or group of users. The playlist is used to generate a script to play advertisements or other content to the user or group of users.

Figure 1 illustrates one embodiment of a computer system. The computer system of Figure 1 can be used in various capacities with the present invention. For example, the computer system can be a terminal used by a user to access local or remote resources, the computer system can be a server providing remote access to a resource, or the computer system can be a proxy server providing access to remote computer systems.

Computer system 100 includes bus 101 or other communication device for communicating information and processor 102 coupled to bus 101 for processing information. Computer system 100 further includes random access memory (RAM) or other dynamic storage device 104 (referred to as main memory), coupled to bus 101 for storing information and instructions to be executed by processor 102. Main memory 104 also can be used for storing temporary variables or other intermediate information during execution of instructions

by processor 102. Computer system 100 also includes read only memory (ROM) and/or other static storage device 106 coupled to bus 101 for storing static information and instructions for processor 102. Data storage device 107 is coupled to bus 101 for storing information and instructions.

Data storage device 107 such as a magnetic disk or optical disc and corresponding drive can be coupled to computer system 100. Computer system 100 can also be coupled via bus 101 to display device 121, such as a cathode ray tube (CRT) or liquid crystal display (LCD), for displaying information to a computer user. Alphanumeric input device 122, including alphanumeric and other keys, is typically coupled to bus 101 for communicating information and command selections to processor 102. Another type of user input device is cursor control 123, such as a mouse, a trackball, or cursor direction keys for communicating direction information and command selections to processor 102 and for controlling cursor movement on display 121.

Computer system 100 further includes network interface 130 to provide access to a network, such as a local area network. One embodiment of the present invention is related to the use of computer system 100 to provide all or a portion of an incentive points management scheme. According to one embodiment, dynamic incentive points management is performed by one or more computer systems in response to processor(s) executing sequences of instructions contained in memory.

Instructions are provided to memory from a storage device, such as magnetic disk, a read-only memory (ROM) integrated circuit, CD-ROM, DVD, via a remote connection (e.g., over a network via network interface 130), etc. In alternative embodiments, hard-wired circuitry can be used in place of or in combination with software instructions to implement the present invention. Thus, the present invention is not limited to any specific combination of hardware circuitry and software instructions.

Figure 2 illustrates one embodiment of a network configuration. The configuration of Figure 2 is described in terms of both land based communications and satellite communications; however, the manner of communication is not central to the present invention. Therefore, the present invention is applicable to any interconnection of devices that provide access to local and remote resources.

Wide area network 200 provides an interconnection between multiple local area networks (e.g., 220 and 230), individual terminals (e.g., 260) and one or more network operations centers (e.g., 250). In one embodiment, wide area network 200 is the Internet; however, any wide area network (WAN) or other interconnection can be used to implement wide area network 200.

Terminal 260 is an individual terminal that provides access to network resources as well as local resources for a user thereof. In one embodiment, terminal 260 is a personal computer connected to wide area network 200 via a modem, a wireless connection, etc. Alternatively, terminal 260 can be a set-top box such as a WebTV™ terminal available from Sony Electronics, Inc. of Park Ridge, New Jersey, or a set-top box using a cable modem to access a network such as the Internet. Similarly, terminal 260 can be a “dumb” terminal or a thin client device such as the ThinSTAR™ available from Network Computing Devices, Inc. of Mountain View, California.

Local area network 220 provides an interconnection of devices at a local level. For example, local area network 220 can interconnect multiple computers, printers, and other devices within one or more buildings. Local area network 220 is coupled to wide area network 200. Similarly, local area network 230 provides an interconnection of devices. However, local area network 230 is coupled to satellite communications devices 240 as well as wide area network 200.

Network operations center 250 is coupled to wide area network 200 and provides access to network resources for terminal 260, local area network 220 and local area network

230. Communication between network communications center 250 and either terminal 260 or local area network 220 is accomplished by wide area network 200. As described in greater detail below, network operations center 250 and local area network 230 communicate via wide area network 200 and/or satellite communications devices 240.

In one embodiment network operations center 250 includes multiple servers (not shown in Figure 2) that provide access to network and other resources. For example, network operations center 250 can include a Web proxy server that provides access to the World Wide Web (WWW, or the Web) for devices of local area network 220, local area network 230 and terminal 260. Network operations center 250 can also include other devices, such as a middleware server or a file server that provide information to devices coupled to network operations center 250.

In one embodiment, information is communicated between network operations center 250 and local area network 230 via uni-cast, multicast or broadcast satellite communications devices 240, which includes necessary components to provide communications between network operations center 250 and local area network 230. In one embodiment, satellite communication are accomplished using Transmission Control Protocol/Internet Protocol (TCP/IP) embedded within a digital video broadcast (DVB) stream; however, alternative communication protocols can be used. In one embodiment, satellite communications are bi-directional. Alternatively, if satellite communications are uni-directional, wide area network 200 can be used to provide a hybrid, asymmetric bi-directional communications system such as the SkySurfer™ platform available from Gilat Satellite Networks, Inc. of McLean, Virginia.

In one embodiment, sub-playlists are generated at network operations center 250. The sub-playlists are generated based on specific demographic profiled. For example, if an advertiser wishes to advertise to all males, a sub-playlist is generated that includes advertisements and/or other relevant information for each advertiser that wishes to advertise

to males. Any demographic characteristic (e.g., females, particular age groups, residents of a particular ZIP code, people with particular interests). Multiple demographic characteristics can also be used to generate sub-playlists (e.g., 16-18 year old females, males who live in San Diego).

In one embodiment, the sub-playlists are generated in network operations center 250 and distributed to local area networks (e.g., 220 and 230) or terminals (e.g., 260). A device on the local area network or the terminal combines the sub-playlists based on a user's specific demographic profile to generate a playlist that is tailored to the user. By generating and distributing sub-playlists, the computational requirements to generate a playlist that is specific to a particular user.

Figure 3 illustrates one embodiment of a network operations center coupled to a network. With respect to description of Figure 3, wide area network 200 and satellite communications devices 240 are implemented as described above in Figure 2.

Notwithstanding being described as including certain types of servers and other devices, network operations center 250 can include different or additional components as well as multiple components, for example, multiple Web servers. Each server can be one or more software and/or hardware components.

Network operations center (NOC) 250 provides resources to local area networks and individual terminals (not shown in Figure 3) as well as a gateway to a larger network such as the Internet. Thus, network operations center 250 can be used to provide a controlled set of resources while being part of a larger network. This is particularly advantageous in situations where users of the local area networks are somewhat homogenous. For example, students in similar grade levels, professionals, and other groups.

Additional uses and details of the network of Figure 2 and the network operations center of Figure 3 can be found in U.S. Patent application number 09/216,016, entitled "OPTIMIZING BANDWIDTH CONSUMPTION FOR DOCUMENT DISTRIBUTION

OVER A MULTICAST ENABLED WIDE AREA NETWORK" and U.S. Patent application number 09/216,018, entitled "A METHOD AND APPARATUS FOR SUPPORTING A MULTICAST RESPONSE TO A UNICAST REQUEST FOR DATA," both of which are assigned to the corporate assignee of the present invention.

NOC router 300 is coupled to NOC LAN 305 and provides routing and firewall functionality for the servers and other components of network operations center 250. NOC router 300 can be implemented in any manner known in the art. In one embodiment, database 360 is coupled to NOC LAN 305. Database 360 can be used, for example, to store information about authorized users of associated local area networks, or to store information about resources that are available on each terminal connected to the network.

Database 360 can also be used to store statistics about network usage, advertisement media assets to be downloaded to devices of the local area networks, etc. In one embodiment database 360 is used to store placement profiles associated with various advertisements as well as user profile information for authorized users of the network. Data store 365 represents data stored by database 360 and can be one or more physical devices and logical data tables. In one embodiment, data store 365 is used to maintain placement profiles and user profiles. In one embodiment, the placement profiles are the demographic characteristics of a desired target audience for an advertisement. Information from the placement profiles is used to generate advertisement sub-playlists.

Master proxy server 370 is also coupled to NOC LAN 305 to provide World Wide Web resources to devices of the connected local area network(s) or individual terminals. In one embodiment web server 310 is a Hypertext Markup Language (HTML) and/or Secure Sockets Layer (SSL) server. Of course, Web server 310 can be another type of server (e.g. FTP, Multicast "carousel" data broadcast server, reliable file multicast server, UNIX host, media server, etc.). Web cache 320 is used to store Web resources (e.g., Web pages) that are most often accessed, most recently accessed, etc. In one embodiment, Web cache 320 stores

a predetermined set of Web resources that are provided to the local area networks. In a school network environment, the cached Web resources can be, for example, a preapproved set of Web pages. In one embodiment all or a portion of the contents of Web cache 320 are replicated on local networks.

Middleware server 330 manages database applications and interfaces with other servers in network operations center 250. For example, middleware server 330 can determine which users have access to Web server 310 and grant access accordingly. Middleware server 330 can also dynamically generate a Web page, graphic or chart based on database content. In addition, middleware server 330 can acquire and process/evaluate data from a plurality of database servers and logical databases. In one embodiment, middleware server 330 generates the sub-playlists from the placement profile information.

Middleware server 330 can also be replicated on local area networks, such as local area networks 220 and 230 of Figure 2, while providing the targeted playlist scheme of the present invention. Middleware server 330 can be executed in any sufficient manner known to the art, for example, WebObjects® available from Apple Computer, Inc. of Cupertino, California, or a similar database middleware product. Alternatively, each client and server can act as its own middleware device by interfacing with the database servers on their own behalf through existing database interfacing technologies such as the Common Object Request Broker Architecture (CORBA) as defined by Object Management Group, Inc. of Framingham, Massachusetts or COM+ available from Microsoft Corporation of Richmond, Washington.

Application server 340 provides applications programs to devices coupled to network operations center 250. Application server 340 conceptually represents two different types of servers. Application server 340 can be part of a client-server architecture where the server provides data to a client (e.g., HTML server, e-mail server, bulletin board server). Application server 340 can also be a software distribution and management server

for "stand alone" programs. Master proxy server 370 provides World Wide Web access to devices coupled to network operations center 250. Master proxy server 370 can be implemented in any manner known in the art.

Figure 4 illustrates one embodiment of a layout of a graphical user interface. In one embodiment user interface 400 provided to a user of a terminal is configured based on session access privileges granted to the user. In one embodiment user interface 400 provides the gateway by which a user accesses both local and remote resources.

In one embodiment browser controls and tool bar 410 provide graphical "buttons" that allow a user to perform certain operations. Browser controls and tool bar 410 can include, for example, "back," "forward," and "stop" buttons for browser control as well as "save," "open," and "print" buttons for general application control. Additional, fewer, and/or different buttons and commands can be included in browser control and tool bar 410.

In one embodiment applications menu/switcher and edit menu 420 provides application selection control and general editing control for multiple applications. For example, applications menu/switcher and edit menu 420 can include a list of all local and/or remote applications available to the user of the terminal on which user interface 400 is displayed. From the applications menu, the user can select an application to use. The edit portion provides general editing commands such as "cut," "copy," and "paste" for the user to move data between available applications.

In one embodiment points meter 430 provides a summary of incentive points or other points schemes available to the user. An incentive points management scheme is described in greater detail in U.S. Patent application number 09/213,238, entitled "INCENTIVE POINTS MANAGEMENT," which is assigned to the corporate assignee of the present invention. Incentive points can be awarded to a user for clicking on, or otherwise interacting with, an advertisement.

Browser and application window 440 provides space for the user to interact with the resources accessed. For example, if a word processing application is being used, browser and application window 440 displays the word processing application window when the application is activated. Thus, the user can switch between applications and move data between applications that are available on the terminal using menu/switcher and edit menu 420 should the current user have sufficient privileges to do so on the current terminal. If a browser application is being used, browser and application window 440 is used as a browser window.

In one embodiment feature and channel buttons 460 provide access to features (e.g., e-mail, chat rooms, message boards, bookmarks) and channels (e.g., educational topics, news topics) available to the user. Feature and channel buttons 460 are configured based on the session privileges such that only the features and channels available to or associated with the user appear. Feature and channel buttons control what is displayed in browser and applications window 440.

In one embodiment, dynamic billboard 470 provides advertising according to the present invention and/or other information to the user while the user is using an application or browser. Of course, dynamic billboard advertising space 470 can be used for other purposes such as, for example, video conferencing, instant messaging, distance learning/instruction, news updates, or other uses.

The dynamic billboard (DBB) 470 displays advertisements according to the advertisement script generated from the playlist for the current user. In one embodiment, DBB 470 is an HTML window (e.g. its own browser) capable of displaying text, graphics, animations, videos, digital audio, embedded programs such as Java applets or ActiveX programs, forms, etc. The script controls what is presented in DBB 470 and when, and receives and processes input from the other windows of the application DBB 470 is integrated into (e.g. what Web page or application is currently in browser and applications

window 440). Other ad containers can be used, for example, message window 450, or a background audio player, or an interstitial engine that runs in the Web browser window that presents advertisements from the local hard disk while pages are being loaded from the Web.

In alternative embodiments, advertisements are presented in a different manner. For example, advertisements can be presented as a banner, a message, an audio advertisement. Such an embodiment can be implemented by including an advertisement classification in the advertisement script and/or placement information that provides appropriate information describing the advertisement(s) to be presented.

In one embodiment, message window 450 can display messages to the user. For example, an instructor can send messages to students, a user of one terminal can send a message to a user of another terminal, a system administrator can send messages to a user or a group of users. Message window 450 can be used for messages that are independent of browser and applications window 440, so long as such messages are allowed by the current session privileges.

Figure 5 is one embodiment of a flow diagram for generating a sub-playlist. The relevant demographic characteristics are determined at 510. In one embodiment, relevant demographic characteristics are those characteristics that some participating advertiser has indicated as a target demographic characteristic. In this manner, demographic characteristics can be added, deleted and/or modified without effecting other characteristics or requiring re-compilation of demographic characteristics.

Appropriate advertisements are associated with the one or more relevant demographic characteristics at 520. In one embodiment, the audio, video, graphics, or other data for the advertisements are stored in a file corresponding to the associated demographic characteristic (e.g., males.ad, 16-18.ad, SFO_females.ad, NYC_18_males.ad). In an alternative embodiment, information describing the advertisements (e.g., pointers to advertisement data) can be stored in the files associated with the demographic characteristics.

rather than the advertisement data. Also, data other than advertisements can be distributed in a similar manner.

The sub-playlists are distributed at 530. In one embodiment, the sub-playlists are generated at a network operations center periodically (e.g., daily, weekly). The sub-playlists are then distributed to one or more terminals or local area networks. In one embodiment, the sub-playlists are distributed during off-peak hours (e.g., late night, early morning) so that network performance is not adversely affected; however, the sub-playlists can be distributed at any time. In one embodiment, the sub-playlists are broadcast via a satellite connection or other high speed connection; however, distribution can be accomplished in any appropriate manner.

Alternatively, the sub-playlists can also be generated by a device coupled to a local area network including the devices on which the advertisements are to be displayed. However, local generation of the sub-playlists increases the overall processing required because multiple devices generate redundant sub-playlists. In another alternative embodiment, sub-playlists are generated both locally and at a network operations center. For example, national or regional demographic characteristics (e.g., females, males, 21-35 year olds) can be used to generate sub-playlists at a network operations center covering the corresponding demographic characteristics. More specific local sub-playlists can be generated locally based on more local demographic characteristics (e.g., residents of a particular city, members of a particular organization). The sub-playlists from the network operations center and the local sub-playlists can be combined to provide targeted advertising.

Figure 6 is a flow diagram for generation of a playlist from sub-playlists according to one embodiment of the invention. A user logs in to a terminal at 600. In one embodiment, a user provides information (e.g., a user name and password, an encoded card) that identifies the user.

In one embodiment, user login information is verified at a network operations center at 610. In alternative embodiments, user login verification is performed by a device on a local area network or by the device where the user logs in. As part of the user verification, stored demographic information related to the user is retrieved. In one embodiment, user demographic information is obtained as part of a registration process; however, demographic information can also be derived from observing the user (e.g., Web sites visited, purchases made).

The demographic information retrieved as part of the user verification process is received at 620. In one embodiment, the demographic information is received by a database or other device coupled to the same local area network as the device on which the user logged in. Alternatively, the device that user is using can receive the demographic information. In one embodiment, the device that receives the demographic information has previously received one or more sub-playlists. Alternatively, the device that receives the sub-playlists is different than, but coupled to, the device that receives the demographic information.

A playlist that is specific to the user's demographic profile is generated at 630. In one embodiment, a database that receives the sub-playlists and the user's demographic information combines the sub-playlists that correspond to the user's demographic information to generate a playlist. The advertisements are played at 640. In one embodiment, the advertisements are played on dynamic billboard 470 in response to a script based on the playlist; however, the advertisements can be played in another manner.

Figure 7 is a flow diagram of an advertisement script running within a client application according to one embodiment of the present invention. A client session is initiated at 700. A client session can be initiated, for example, by a user logging on at a terminal that the user is authorized to use. As a result of the session initiation, an advertisement script is dynamically generated as described above.

The client application receives an advertisement script for the session at 705. In one embodiment, the advertisement script is received from a middleware or advertisement server in a network operations center. Alternatively, the script can be received from a local server or other device.

The client application executes the script at 710 by displaying advertisements according to the placement, order, duration, and other information in the advertisement script. The client application obtains advertisement assets from one or more sources (e.g., remote server, local server, internal hard drive) indicated by the script.

During execution of the advertisement script, the client application determines a next advertisement to display at 715. In one embodiment, the advertisement selected is determined based on input and output trigger/modification events. For example, if a user selects a remote resource (e.g., Web page) associated with an advertisement in the script, the script ordering may be modified.

The client application or the middleware server determines whether any events have occurred that are trigger events at 720. If so, the trigger event is evaluated and the appropriate action is taken at 745. For example, an advertisement can be inserted in, or deleted from, the rotation script, the script can be paused, or timing can otherwise be modified. In one embodiment, the script pauses at 740 while script information and/or placement parameters are updated based on the modification/trigger event. Execution of the script continues at 715.

If evaluation of the trigger at 745 indicates that the session is ending, the session ends at 750. In one embodiment, after the session ends, the advertisement log is archived at 755. The advertisement log reports what advertisements were displayed during the session and other related information (e.g., the user's ID, the terminal's ID, if the user clicked on an advertisement, what trigger events occurred during the session). In one embodiment, the report is stored in a database in the network operations center. The report can be used to

dynamically generate and aggregate effected advertising statistics, for example, to report demographic information, for billing purposes, etc.

Because the architecture of the present invention provides more detailed information about users to which advertisements are displayed, the present invention can also provide detailed reports based on the advertisement log. For example, the advertisement log can indicate users, times, advertisement categories and other information related to advertisements that were successful (e.g., a user clicked on the advertisement, a user visited a particular Web page) or unsuccessful (e.g., a user changed his/her interest profile to avoid the advertisement). The more detailed reporting can be used to provide more economical and relevant pricing structures than would otherwise be available. For example, each placement parameter can have an associated price and/or billing rate.

If a trigger event does not occur at 720, the next advertisement in the rotation portion of the script is displayed at 725. The advertisement is displayed until the appropriate duration has expired at 730. In one embodiment, the hit/impression information is recorded at 735 at the end of the advertisement duration. A subsequent advertisement is then displayed at 715.

In the foregoing specification, the present invention has been described with reference to specific embodiments thereof. It will, however, be evident that various modifications and changes can be made thereto without departing from the broader spirit and scope of the invention. The specification and drawings are, accordingly, to be regarded in an illustrative rather than a restrictive sense.

CLAIMS

What is claimed is:

1. A method of generating a playlist, the method comprising:
associating digital content with one or more demographic characteristics to generate sub-playlists for the one or more demographic characteristics;
combining one or more sub-playlists to generate a user playlist based on a user's demographic characteristics; and
displaying the digital content associated with the user playlist.
2. The method of claim 1 wherein the digital content comprises one or more advertisements.
3. The method of claim 1 wherein the digital content comprises audio/visual content.
4. The method of claim 1 further comprising distributing the sub-playlists to one or more distributed local area networks.
5. The method of claim 4 wherein distribution occurs during off peak hours.
6. The method of claim 1 wherein combining one or more sub-playlists to generate a user playlist based on a user's demographic characteristics further comprises:
distributing the one or more sub-playlists from a network operations center to one or more distributed local area networks;

determining a user's demographic characteristics at a local area network where the user logs in;

combining the one or more sub-playlists at the local area network where the user logs in.

7. The method of claim 1 further comprising generating a script in response to the playlist, the script to control playback of digital content associated with the playlist.

8. An apparatus for generating digital content playlists, the apparatus comprising:

means for associating digital content with one or more demographic characteristics to generate sub-playlists for the one or more demographic characteristics;

means for combining one or more sub-playlists to generate a user playlist based on a user's demographic characteristics; and

means for displaying the digital content associated with the user playlist.

9. The apparatus of claim 8 wherein the digital content comprises one or more advertisements.

10. The apparatus of claim 8 wherein the digital content comprises audio/visual content.

11. The apparatus of claim 8 further comprising means for distributing the sub-playlists to one or more distributed local area networks.

12. The apparatus of claim 11 wherein distribution occurs during off peak hours.

13. The apparatus of claim 8 wherein combining one or more sub-playlists to generate a user playlist based on a user's demographic characteristics further comprises:
 - means for distributing the one or more sub-playlists from a network operations center to one or more distributed local area networks;
 - means for determining the user's demographic characteristics at a local area network where the user logs in;
 - means for combining the one or more sub-playlists at the local area network where the user logs in.

14. A network comprising:
 - an asset database, the asset database to store play sub-lists corresponding to one or more demographic characteristics; and
 - a terminal to grant user access to the network, the terminal to communicate identification information indicating demographic characteristics of the user to the asset database and to receive a playlist from the asset database based on demographic characteristics of the user, wherein the playlist is generated from the one or more play sub-lists.

15. The network of claim 14 further comprising a network operations center having an advertisement database, the advertisement database to generate the play sub-lists.

16. The network of claim 15 wherein the advertisement database distributes the play sub-lists to the asset database.

17. The network of claim 15 wherein the advertisement database determines the user's demographic information based on the identification information and communicates the user's demographic information to the asset database.

18. The network of claim 14 wherein the asset database and the terminal are coupled to a common local area network.

19. A machine-readable medium having stored thereon sequences of instructions to, when executed, cause one or more electronic devices to:

associate digital content with one or more demographic characteristics to generate sub-playlists for the one or more demographic characteristics;

combine one or more sub-playlists to generate a user playlist based on a user's demographic characteristics; and

display the digital content associated with the user playlist.

20. The machine-readable medium of claim 19 wherein the digital content comprises one or more advertisements.

21. The machine-readable medium of claim 19 wherein the digital content comprises audio/visual content.

22. The machine-readable medium of claim 19 further comprising sequences of instructions to, when executed, cause the one or more electronic devices to distribute the sub-playlists to one or more distributed local area networks.

23. The machine-readable medium of claim 22 wherein distribution occurs during off peak hours.

24. The machine-readable of claim 19 wherein the sequences of instructions to cause the one or more electronic devices to combine one or more sub-playlists to generate a user playlist based on a user's demographic characteristics further comprise sequences of instructions to cause the one or more electronic devices to:

distribute the one or more sub-playlists from a network operations center to one or more distributed local area networks;

determine a user's demographic characteristics at a local area network where the user logs in;

combine the one or more sub-playlists at the local area network where the user logs in.

25. The machine-readable medium of claim 19 further comprising sequences of instructions to, when executed, cause the one or more electronic devices to generate a script in response to the playlist, the script to control playback of digital content associated with the playlist.

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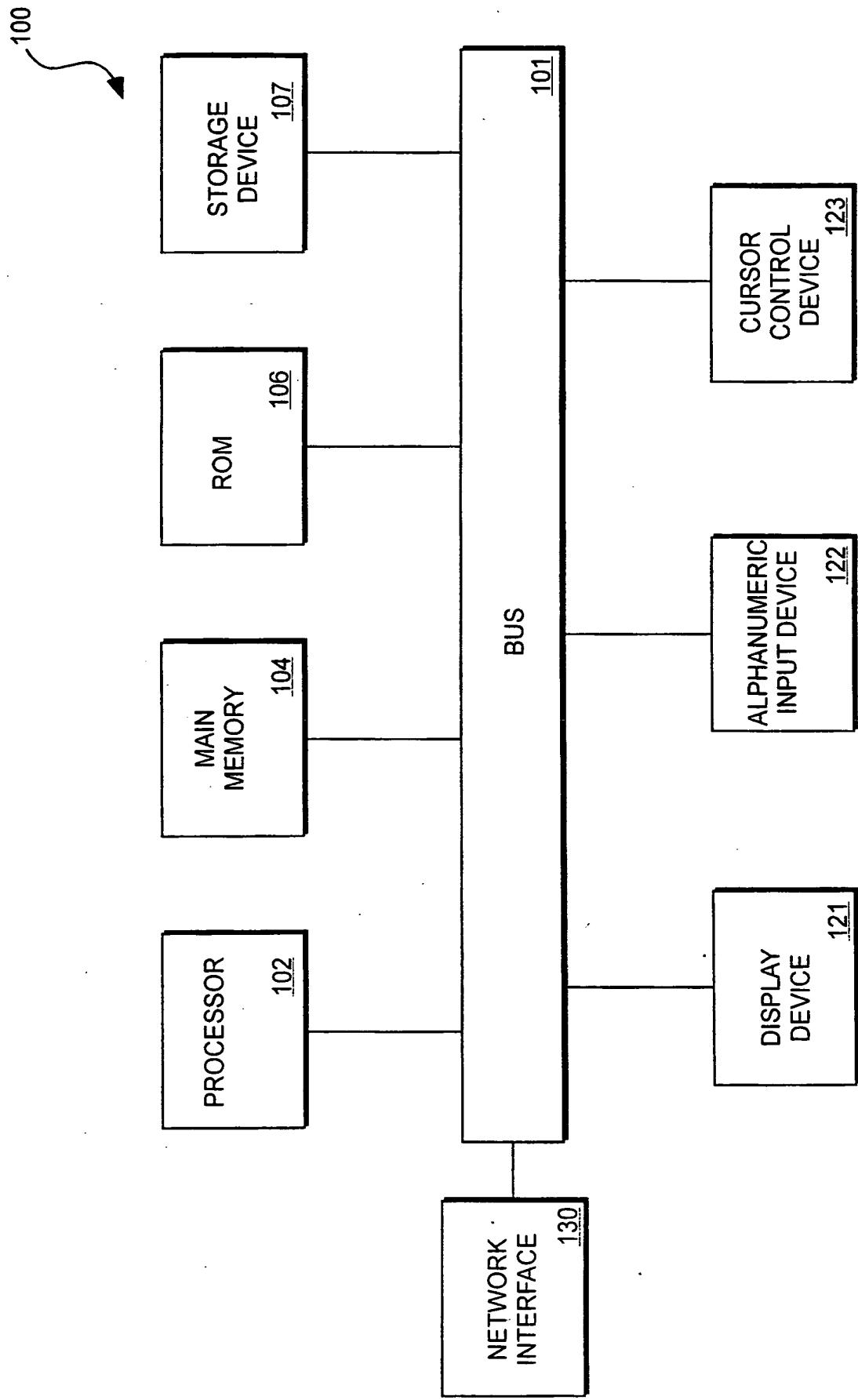


FIG. 1

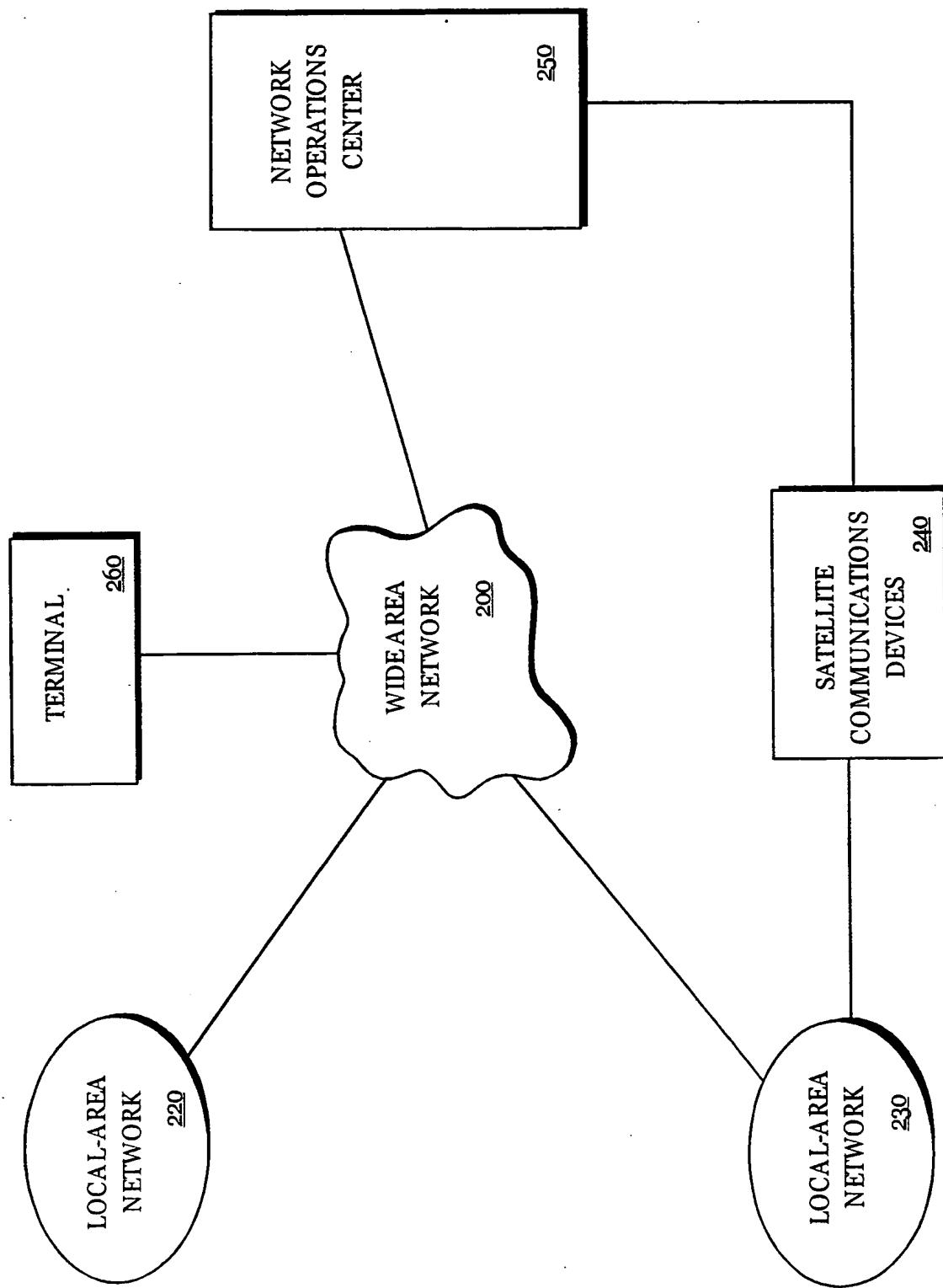


FIG. 2

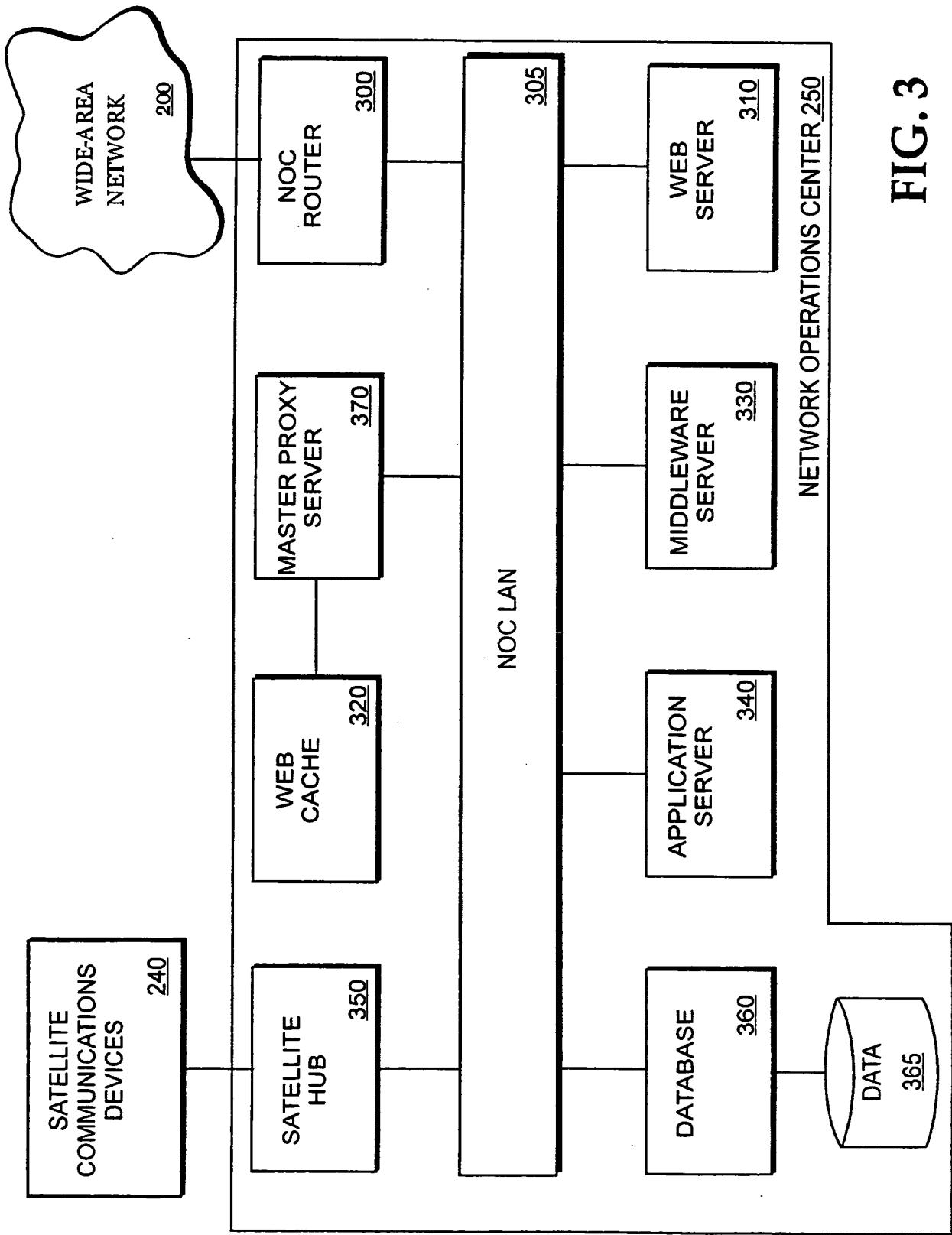


FIG. 3

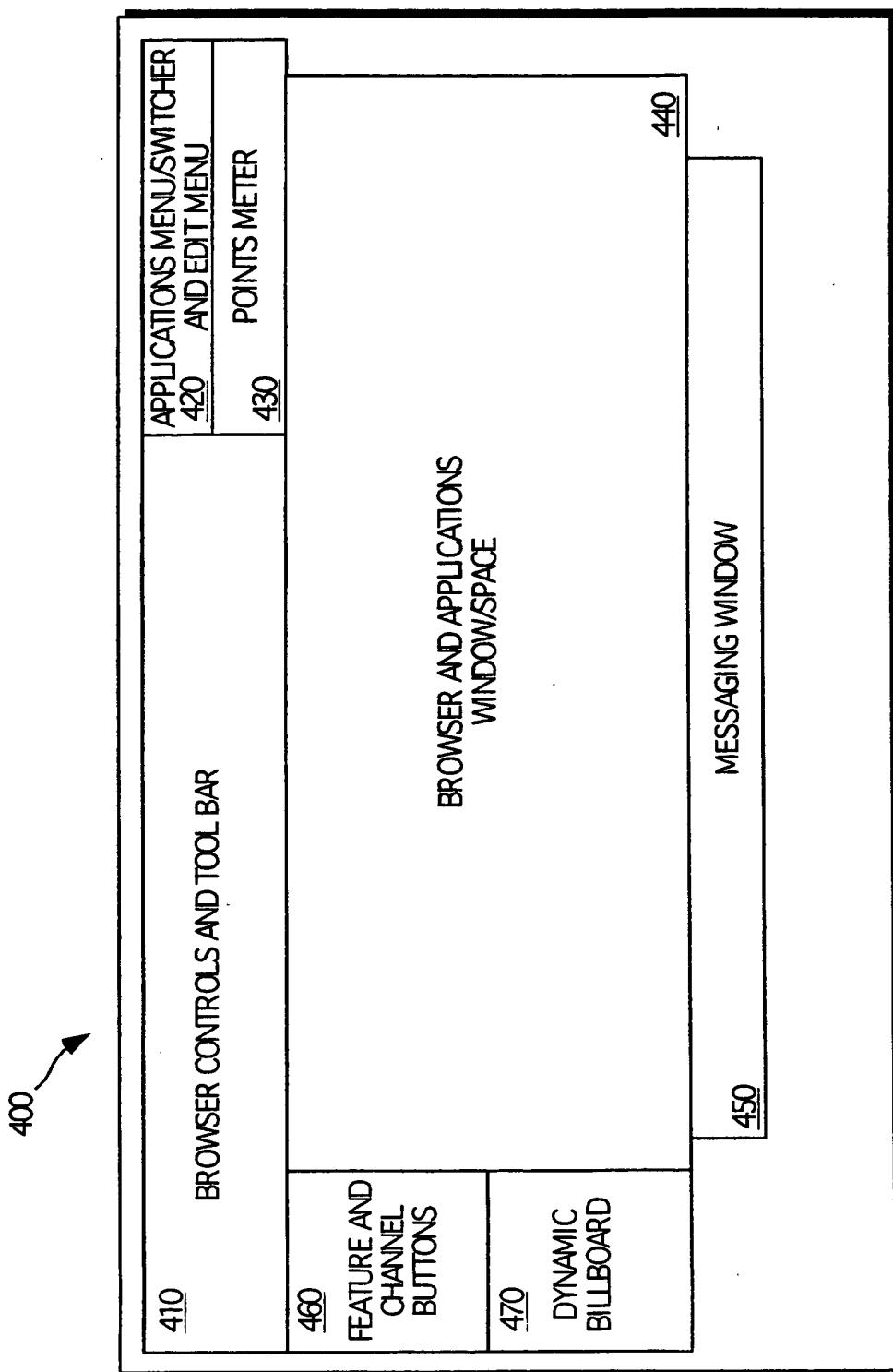
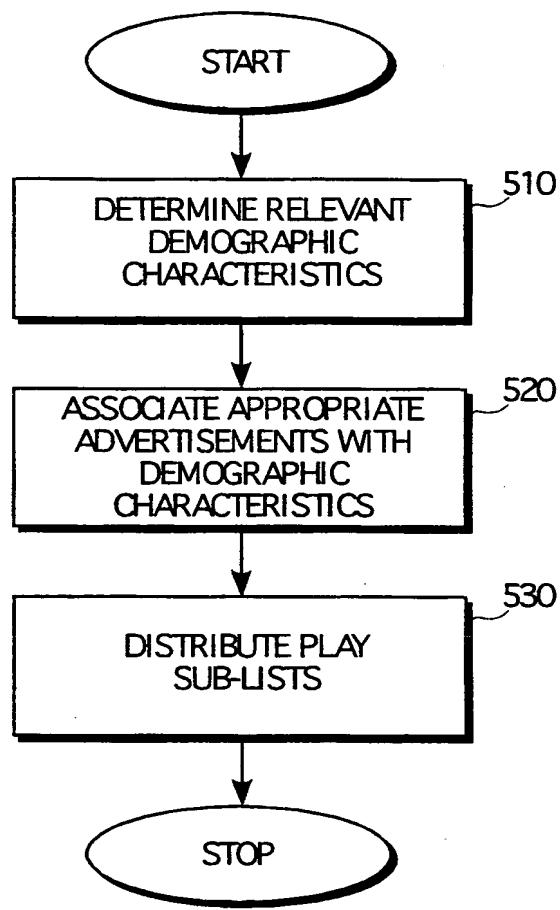
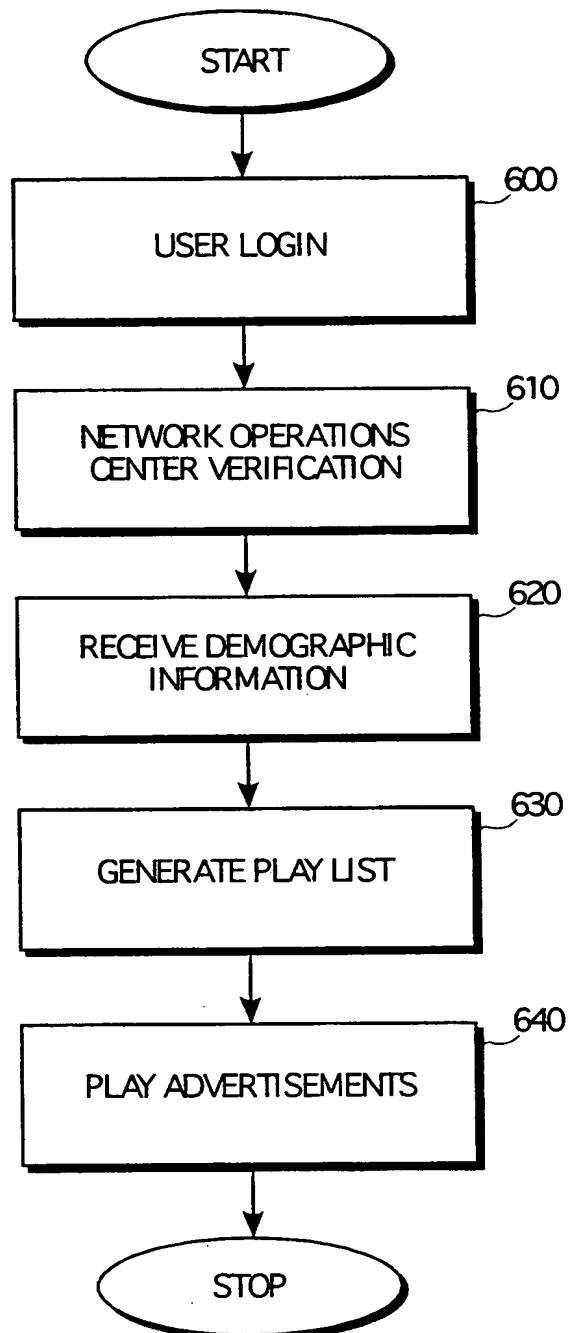


FIG. 4

**FIG. 5**

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**FIG. 6**

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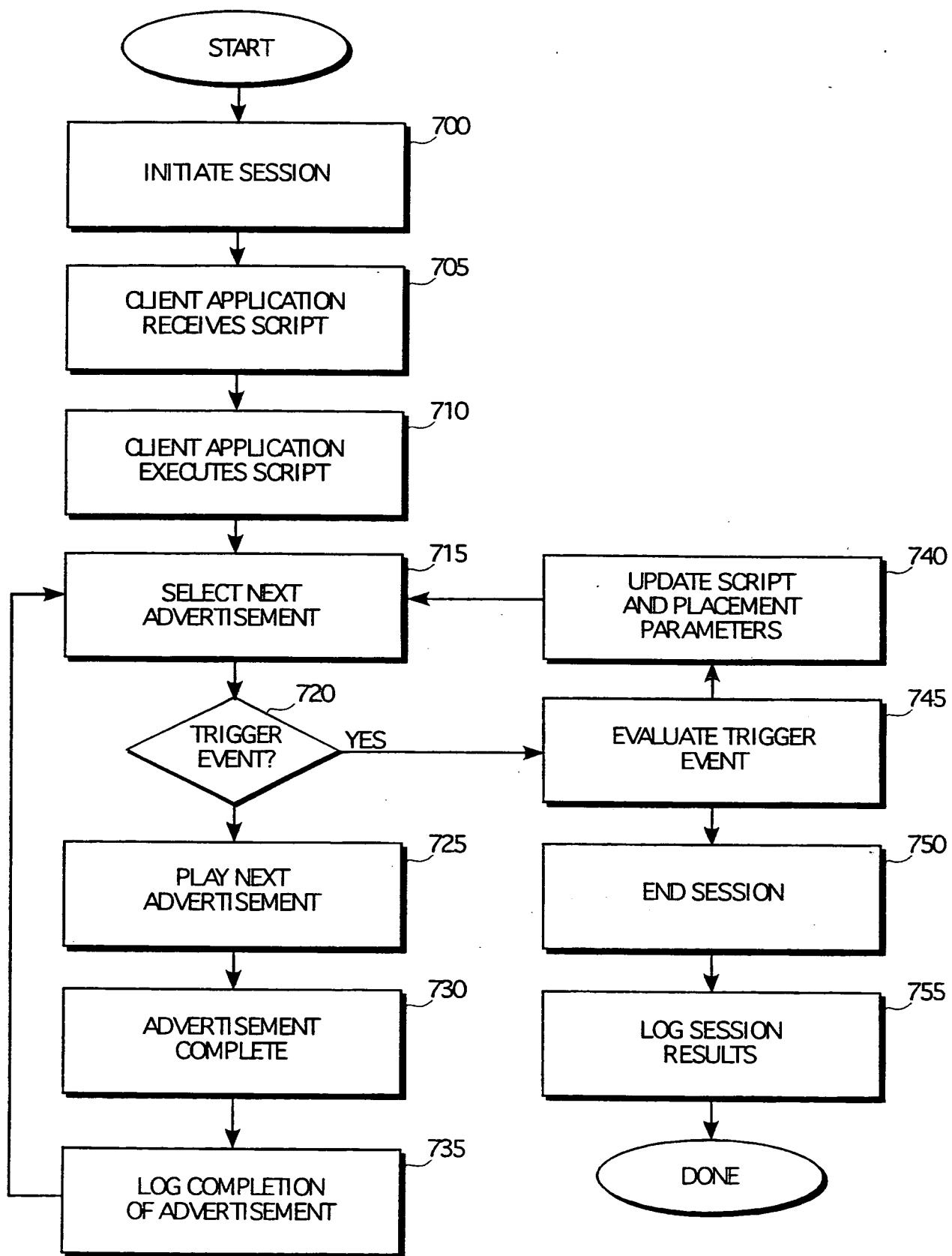


FIG. 7

INTERNATIONAL SEARCH REPORT

International application No.
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A. CLASSIFICATION OF SUBJECT MATTER

IPC(7) :G06F 17/60

US CL :705/10, 14

According to International Patent Classification (IPC) or to both national classification and IPC

B. FIELDS SEARCHED

Minimum documentation searched (classification system followed by classification symbols)

U.S. : 705/10, 14

Documentation searched other than minimum documentation to the extent that such documents are included in the fields searched

Electronic data base consulted during the international search (name of data base and, where practicable, search terms used)

STN,EAST
demographics,targeting,focused,digital,subset,advertisements,ads,messages,discounts

C. DOCUMENTS CONSIDERED TO BE RELEVANT

Category*	Citation of document, with indication, where appropriate, of the relevant passages	Relevant to claim No.
Y	US 5,915,243 A (SMOLEN) 22 June 1999, entire document.	1-25
Y	US 5,933,811 A (ANGLES et al) 03 August 1999, entire document.	1-25
Y	US 5,710,886 A (CHRISTENSEN et al) 20 January 1998, entire document.	1-25
A	US 5,809,481 A (BARON et al) 15 September 1998, entire document.	1-25
A	US 5,812,642 A (LEROY) 22 September 1998, entire document.	1-25
A	US 5,857,175 A (DAY et al) 05 January 1999, entire document.	1-25

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Further documents are listed in the continuation of Box C.



See patent family annex.

* Special categories of cited documents:	"T"	later document published after the international filing date or priority date and not in conflict with the application but cited to understand the principle or theory underlying the invention
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Box PCT
Washington, D.C. 20231
Facsimile No. (703) 305-3230

Authorized officer

JAMES TRAMMELL

Telephone No. (703) 305-9768

INTERNATIONAL SEARCH REPORT

International application No.

PCT/US00/25576

C (Continuation). DOCUMENTS CONSIDERED TO BE RELEVANT		
Category*	Citation of document, with indication, where appropriate, of the relevant passages	Relevant to claim No.
A	US 5,948,061 A (MERRIMAN et al) 07 September 1999, entire document.	1-25

Form PCT/ISA/210 (continuation of second sheet) (July 1998)★



INTERNATIONAL APPLICATION PUBLISHED UNDER THE PATENT COOPERATION TREATY (PCT)

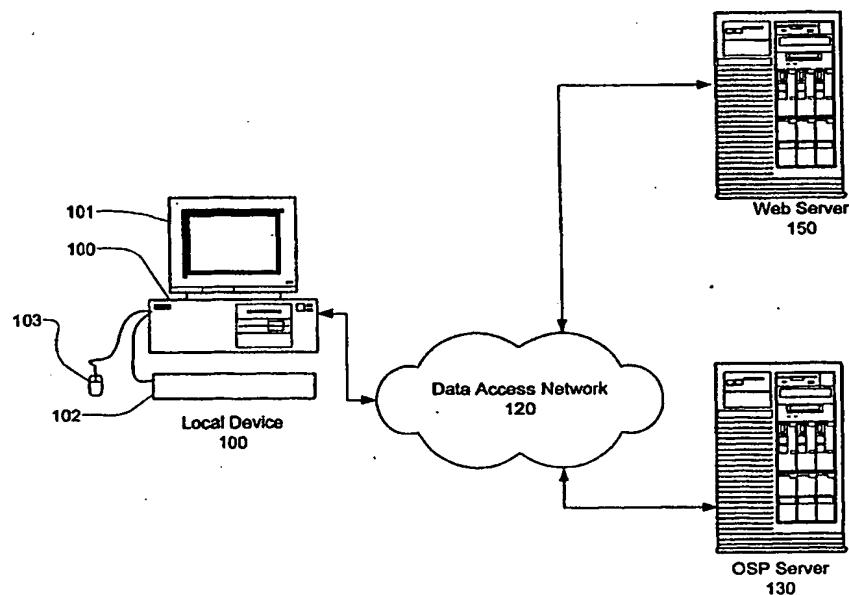
(51) International Patent Classification 7 :	A2	(11) International Publication Number: WO 00/54201
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(71) Applicant: NETZERO, INC. [US/US]; 2555 Townsgate Road, Westlake Village, CA 91361-2650 (US).		
(72) Inventors: HAITSUKA, Stacy; NetZero, Inc., 2555 Townsgate Road, Westlake Village, CA 91361-2650 (US). ZEBIAN, Marwan; NetZero, Inc., 2555 Townsgate Road, Westlake Village, CA 91361-2650 (US). MAC KENZIE, Harold; NetZero, Inc., 2555 Townsgate Road, Westlake Village, CA 91361-2650 (US). BURR, Ronald; NetZero, Inc., 2555 Townsgate Road, Westlake Village, CA 91361-2650 (US). WARREN, Terry; NetZero, Inc., 2555 Townsgate Road, Westlake Village, CA 91361-2650 (US).		
(74) Agent: SEREBOFF, Steven; Arter & Hadden LLP, 5 Park Plaza, Suite 1000, Irvine, CA 92614-8528 (US).		

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(54) Title: DYNAMIC AD TARGETING BY AN INTERNET SERVER



(57) Abstract

In accordance with the present invention, there is provided an ad server application that selects advertisements to be viewed by users of an online service. The ad server application receives information about the users and information about the desired audience for the advertisements. The ad server application performs a best-fit match between the users and the advertisements. The selected advertisements are then displayed to users in an order selected by the ad server application, and based upon the performance of the advertisements, the ad server application refines the best-fit matches and the display order for the users.

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DYNAMIC AD TARGETING BY AN INTERNET SERVER

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BACKGROUND OF THE INVENTION

1. *Field Of The Invention*

The present invention relates to the selection of advertisements and display of advertisements to a user of an online service.

2. *Description Of Related Art*

Online services today offer a variety of services to their users. Users may access news, weather, financial, sports, and entertainment services, participate in and retrieve information from online discussion groups, and send and receive email. A user of an online service typically accesses the service using specialized communication software (i.e., client application or client software) that establishes and manages a connection from the user's computer (or client) to the online service provider's host computers (or servers) and facilitates the user's interactions with the service.

In addition to managing the connection, there is provided software to display pages or screens relating to retrieved content according to views or presentations specific to the online service. This software may be integrated with the client application. The functionality of the content and the user interface (i.e., icons, dialog boxes, menus, etc.) for interacting with the content are typically dictated by various standards.

Interactions between the user's computer and the online service are facilitated by a variety of software protocols (i.e., communication conventions, rules and structures),

including application level protocols, for managing the transfer of data across the network and to the client application on the user's computer. A protocol may be proprietary or exclusive to an online service such that only client software from the online service provider may be used to communicate with the server software. For example, an online service provider that supports electronic mail, discussion groups, chat groups, news services, etc. may define and use specific protocols for each type of service so that appropriate information is exchanged between the participants (i.e., clients and servers). Each application-specific protocol may be based on a common, underlying protocol.

The Internet and World Wide Web ("Web"), comprised of a vast array of international computer networks, may provide online service users with considerable information resources and other content. Typically, this content is accessed using a web browser, such as Microsoft Internet Explorer or Netscape Navigator, capable of understanding the HyperText Markup Language (HTML) used to create the documents found on the Web and the HyperText Transfer Protocol (HTTP) used to navigate the Web. Email and Usenet discussion groups are typically accessed through companion software to the browser. Although web browsers typically have varying levels of functionality or sophistication, retrieved content is displayed in content pages according to views or presentations specific to the web document currently presented by the web browser. Typically, the views and presentations are different than those provided by the communication software from the online service provider because the web browser is, in fact, a separate client application displaying web documents containing presentation directives.

When using a browser, the browser issues HTTP messages to request web pages. A requested web page is typically identified using its URL – uniform resource locator. The URL is a reference (or address) to a resource available on a TCP/IP network such as the Internet. A URL is composed of a character string, and may have a number of parts. These parts include a top level domain name, second level domain name, directory name, and file name. URLs may identify a file located on a web server. URLs may also point to other resources on the network such as database queries and command output. The determination and use of URLs is well known in the art and is not discussed further herein.

In some portions of this disclosure, the term "resource locator" is used. The term is defined as a string or code which uniquely identifies a resource on a network. Thus, the URL is a species of resource locator.

There are a number of types of online service providers (OSPs). Online services may serve the general public or may serve a limited class of individuals. Some public OSPs utilize proprietary networks; America Online and @Home are examples. Other public OSPs use the public networks, and most Internet Service Providers (ISPs) are an example. OSPs often provide Internet access. Internet access is the primary service provided by some OSPs, most notably ISPs.

Users typically connect to an OSP using a computer with a communications device such as an analog modem, an Ethernet adapter, DSL adapter or cable modem. Such connections may be analog or digital, dial-up or constantly-connected. Subscribers typically pay a fee for their subscriptions to OSPs. These fees typically are in the form of a sign-up fee, plus online charges which are fixed (i.e., unlimited monthly access for a fixed fee) or based upon the amount of time the user is connected to the online service. The fees generally increase with bandwidth.

Some online service providers have derived revenue by displaying advertisements for third parties (hereinafter, "advertisements") to users. For example, when a user accesses a web page on the Web, an advertisement may be displayed to the user as part of the web page. Advertisements are also shown to users of some proprietary online services. Typically in such systems, each user accessing a certain screen or site is shown the same advertisement. Sophisticated systems have the capability to change the advertisement after a certain period of time.

Some attempts have been made to provide advertising-supported online services, including Internet access, on a free or heavily discounted basis. Typically, these online services required the user to use a special client application for connecting to the online service. The client application typically causes an advertising window to be displayed on the user's display. This advertising window remains visible and on top of other windows throughout the entire online session. The client application receives advertisements one at a

time from the online service provider, and the client application displays the advertisements in the advertising window. It is unknown to the inventors, however, whether the transmission of advertisements from the online service provider to the client application is initiated by the online service provider or the client application, how the online service determines which advertisements to send to the users, and whether such typical client applications do anything more than open the communications link with the online service and display advertisements.

In one advertising based Internet service called Bigger.net, the client application periodically requested new advertisements from an ad server. A host computer monitored the time between such requests and terminated the connection if a preset period of time was exceeded. Bigger.net also had the ability to monitor network activity, though it is unclear how this was done.

Other advertising-supported online services have included: CyberFreeway, which used a client application developed by HyperNet, Inc. of Tokyo, Japan; Juno Online, which provided free email; Tritium and Freewwweb.

Advertisers find it desirable to target advertisements to relevant potential customers. For example, an advertiser of stockings would prefer to target women rather than men with its advertising. A Boston restaurant would prefer to target residents of Boston and business travelers rather than children living in San Francisco. Moreover, advertisers prefer to pay for advertising based upon the number of relevant consumers who are actually exposed to the advertisement. For typical online systems and networks, including the Web, it is often difficult for an advertiser to precisely determine whether its advertisements were actually viewed by a user and for how long, and whether the advertisement induced a response. Accordingly, there exists a need for a targeted advertisement system that also can provide information as to the characteristics of those who were exposed to each advertisement, for how long the user was exposed, and at what times.

It is believed that the prior art advertising-supported online services did not have the ability to target advertisements. Furthermore, their client applications are believed to have been limited in capabilities.

SUMMARY OF THE INVENTION

In accordance with the present invention, there is provided an ad server application that selects advertisements to be viewed by users of an online service. The ad server application receives information about the users and information about the desired audience for the advertisements. The ad server application performs a best-fit match between the users and the advertisements. The selected advertisements are then displayed to users in an order selected by the ad server application, and based upon the performance of the advertisements, the ad server application refines the best-fit matches and the display order for the users.

In certain circumstances, the ad server automatically transmits certain advertisements for immediate display in real time. In one such circumstance, the ad server determines whether any advertisements are exhibiting a good response from users of a given demographic category. If the advertisement is receiving a good response from users of a given demographic category, then the ad server automatically causes the advertisement to be displayed to users of a similar demographic category. Advertisements that are exhibiting a poor performance with users may also be given special attention. Such advertisements are increased in rotation or prominently displayed to the user in an attempt to generate user response to the advertisement.

Still further objects and advantages attaching to the system and to its use and operation will be apparent to those skilled in the art from the following particular description.

DESCRIPTION OF THE DRAWINGS

Further objects of this invention, together with additional features contributing thereto and advantages accruing therefrom, will be apparent from the following description of a preferred embodiment of the present invention which is shown in the accompanying drawings with like reference numerals indicating corresponding parts throughout and which is to be read in conjunction with the following drawings, wherein:

Figure 1 is a first block diagram of a network data distribution system in accordance with the invention.

Figure 2 is a second block diagram of a network data distribution system in accordance with the present invention.

Figure 3 is a representation of a display of a local device having a client window and a browser window.

Figure 4 is a flow chart of a method of monitoring web browsing by a user in accordance with the invention.

Figure 5 is a flow chart of a method of displaying advertisements to a user of an online service in accordance with the invention.

Figure 6 is a flow chart of a method of assembling a list of targeted advertisements for a user of an online service in accordance with the invention.

Figure 7 is a flow chart of a method of optimizing advertisement targeting criteria in accordance with the invention.

Figure 8 is a flow chart of a method of dynamically re-targeting advertisements to users of online service in accordance with the invention.

These and additional embodiments of the invention may now be better understood by turning to the following detailed description wherein an illustrated embodiment is described.

DETAILED DESCRIPTION OF THE INVENTION

Throughout this description, the preferred embodiment and examples shown should be considered as exemplars, rather than limitations on the apparatus and methods of the present invention.

The System of the Invention

The system of the invention enables data, such as advertisements, to be sent to users based upon: the user's geographic location; the user's interactive data; the user's network usage data; the user's personal profile information; the scheduling requirements of the data to be sent; and the demographic requirements of the data to be sent. As used herein, the term "demographic" is used to refer to various characteristics that define the user. A user's demographic profile may be divided into various categories including, but not limited to, geographic location, age, occupation, gender, marital status, and psychological characteristics such as interests and hobbies.

Referring now to Figure 1, there is shown a block diagram of a network data distribution system in accordance with the invention in conjunction with a source of web pages. Figure 1 includes a local device 100, a data access network 120, an OSP server 130 and a web server 150. The local device 100, the data access network 120 and the OSP server 130 comprise the network data distribution system. The local device 100 is provided online service to the network data distribution system under control of the OSP server 130. An online service provider controls the OSP server 130.

The local device 100 preferably comprises a client computer that is configured to access the OSP server 130 via the local access network 120. The client computer may be, for example, a PC running a Microsoft Windows operating system. The local device 100 preferably includes an output device, such as display 101, and an input device, such as keyboard 102 and / or pointing device 103 (e.g., mouse, track ball, light pen, or data glove). The local device 100 may also be, for example, an Internet appliance, network computer (NC), or an appropriately Internet-enabled device such as a portable digital assistant (PDA), mobile phone, refrigerator, etc. The particular type of device of the local device 100 is not

considered to be important so long as the local device 100 can provide some measure of individual user interactivity with an online service.

The data access network 120 provides lower layer network support for the local device 100 to interact with online service, including the OSP server 130 and the web server 150. The data access network 120 preferably comprises a common or private bi-directional telecommunications network (e.g., a public switched telephone network (PSTN), a cable-based telecommunication network, a LAN, a WAN, a wireless network), coupled with or overlaid by a TCP/IP network (e.g., the Internet or an intranet).

The web server 150 may be of the type known in the art and has the ability to serve web pages to the local device 100, as requested in the manner known in the art. It should be appreciated that the web server 150 is representative of any source of web pages available to the local device 100. Thus, for example, the web server 150 could be accessible from the Internet, or it could be a part of an intranet and represents any number of web servers.

The OSP server 130 preferably is a computer system, such as a server computer. Alternatively, the OSP server 130 may be considered to represent a number of physical devices which as a group provide the indicated network services. For example, the OSP server 130 could include a dedicated advertisement server that processes advertisement-related data. The OSP server 130 acts as a recipient of certain information transmitted by the local device 100, as described further below. The OSP server 130 preferably also transmits certain data to the local device 100 as described further below.

Referring now to Figure 2, there is shown a block diagram of a network data distribution system of an online service in accordance with the present invention. The system comprises a client application 110, the data access network 120, the OSP server 130 and data stores 140a-g (collectively, 140). A browser application 160 is also shown. A "browser application" is software that provides interactive utilization of hypertext objects located on a network, such as web pages on the Internet. As used herein, "browser application" also includes most email clients and ftp clients. The client application 110 is a program operative on local device 100, and preferably an independent application program or a DLL. The client application 110 preferably retrieves certain network data, displays certain network data,

transmits geographic location data, transmits interactive user data, transmits network usage data and transmits personal profile information as described below. The client application 110 preferably also sets up and provides access to the online service. The data stores 140 store and provide this geographic information data 140d, network usage data 140a, interactive usage data 140b, personal profile information 140g, data to be sent 140e, schedule for transmitting data 140f and demographics for transmitting data 140c.

The browser application 160, such as Microsoft Internet Explorer or Netscape Navigator is preferably installed on the local device 100. When the local device 100 is connected to the web server 150 through the data access network 120, the user of the local device browses the web server 150 from the local device 100 using the browser application. The browser application itself need not be stored on the local device 100. The important aspect is that the user, from the local device 100, can exercise control over what web pages are requested and thus displayed by the local device 100.

Each time a user uses the local device 100 to connect to the online service, the client application 110 and the OSP server 130 establish a session. In this session, the client application 110 transmits certain information regarding the user of the local device 100 and his use of the local device 100 while connected to the online service. The OSP server 130, on the other hand, uses the information from the client application 100 to determine information which should be sent to the client application 110. Preferably, the information from the client application 110 is used by the OSP server 130 to select advertisements which the local device 100 should display. The client application 110 then causes these advertisements to be displayed on the local device's output device 101.

The information from the client application 110 regarding the user preferably includes geographic data and personal profile information. Geographic data indicating the user's current location preferably is sent from the client application 110 to the OSP server 130, which then stores the geographic data in the data store 140d. This geographic data can be something simple, like a phone number. The user preferably provides personal profile information on a periodic basis which is stored in the data store 140g and used by the OSP

server 130. This information consists of (but is not limited to) things such as: age, sex, marriage status, home address and personal interests.

The information regarding the user's use of the local device 100 includes email usage, web usage and advertisement click-throughs. The user's interactions and feedback with the web server 150 provided through the browser application 160 are preferably captured by the client application 110, analyzed by the OSP server 130 and stored in the data store 140b. This includes the user's feedback and responses to the data delivered to the browser application 160. The user's activities on the web server 150 provided through the browser application 160 are preferably captured by the client application 110, analyzed by the OSP server 130 and stored in the data store 140a. This includes the type of network data the user requests and accesses. This data is preferably summarized and classified into multiple demographic profiles.

The data to be sent to users preferably has scheduling requirements that dictate when it should be sent. These scheduling requirements include (but are not limited to): frequency, maximum number of times to send to an individual, minimum number of times to send to an individual, time of day to send, and first and last days to send. The data to be sent to users can have demographic requirements that dictate to whom it should be sent. These include (but are not limited to): personal profile, interactive data, network usage information and geographic location.

Referring now to Figure 3, there is shown the display 101 having a client window 200 and a browser window 300. The client window 200 is generated and controlled by the client application 110. The browser window 300 is generated and controlled by the browser application 160, here Microsoft Internet Explorer. The browser window 300 is familiar to those skilled in the art, so the particulars are not described further herein. Further information regarding the use of most browser applications and their technical specifications is abundantly available.

The client window 200 includes a title bar 230, an advertising pane 210, a number of operational icons 205, 215, 220, 240, 250 on the title bar 230, and a number of button bar icons 260, 265, 270, 275 on a button bar 280. The title bar 230 preferably identifies the name

of the OSP. The advertising pane 210 is a space in which the client application 110 displays advertisements. The client window 200 and the advertising pane 210 are shown having a conventional rectangular shape. However, the client window 200 and the advertising pane 210 may define any of a wide variety of regular or irregular shapes.

The button bar icons 260, 265, 270, 275 preferably provide one-click access to Web pages and / or menus that might be useful to the user. The online service provider can sell the button bar icons to third parties as an additional revenue source. These icons 260, 265, 270, 275 are associated with particular URLs. In the illustrated example, the icon 260 is associated with a start page. The icon 265 is associated with an online shopping mall page. The icon 270 is associated with an online technical support page from the online service provider, and the icon 275 is associated with an online search engine page. By clicking on any of these icons 260, 265, 270, 275, the client application 110 causes the browser application 160 to load the Web page having the URL associated with the selected icon.

The operational icons 205, 215, 240, 250, 280 on the title bar 230 preferably provide one-click access to operational features of the client application 110. As explained below, the client application 110 maintains records of the advertisements that have been displayed. The cycle back icon 205 allows the user to review advertisements which were previously displayed by the client application 110, in the reverse order in which the advertisements were displayed. If the user has cycled back through advertisements, the cycle forward icon 215 allows the user to review advertisements in the order in which the advertisements were displayed by the client application 110. The search icon 240 provides convenient access to online searching facilities. The close icon 250 causes the client window 200 to close, and thus also causes the session with the online service to terminate.

The client application 110 preferably provides access to a menu of additional menu items and functions. The menu preferably provides alternative and enhanced access to the features associated with the button bar icons 260, 265, 270, 275 and the other operational icons 205, 215, 240, 250. In addition, the client application 110 preferably provides the user with the ability to hide or show the title bar 230 and / or the button bar 280. The client application 110 preferably also allows the user to access and edit his profile. The user is

preferably also provided with the option of positioning the client window 200 at any of a number of predefined positions, such as top left corner of the display 101, top right corner, bottom left corner, or bottom right corner.

The browser window 300 includes a display pane 310, an address bar 320 and a title bar 330. The display pane 310 is a region of the browser window 300 wherein the browser application causes web pages received by the browser application to be displayed. The address bar 320 is another region of the browser window 300 and the browser application displays URLs in the address bar 320 corresponding to the web page currently displayed in the display pane 310. The user can also enter a URL into the address bar 320, and the browser application will attempt to load the web page or other object to which the entered URL points. The primary feature of the title bar 330 is that it displays the title of the browser application. Another feature of most browsers is that the title bar 330 displays the title of the web page then displayed in the display pane 310.

The client window 200 is displayed on top of the browser window 300. Preferably, the client window 200 remains visible and on top of all other windows so long as the communication channel to the OSP server 130 is open. The client application 110 preferably can control the location of the client window 200 on the display 101. For example, the client application 110 preferably allows the user to select one of several predefined locations for the client window 200, such as lower left corner, upper right corner, etc. Some operating systems such as Microsoft Windows permit windows to be moved to the edge of the display 101 so that only a small portion of the window is visible. The client application 110 preferably can also prevent the client window 200 from being moved off of the visible area of the display 101. When the user attempts to hide all or a part of the client window 200, the client application preferably moves the client window 200 to a fully visible area of the display 101.

The Methods of the Invention

Referring now to Figure 4, there is shown a flow chart of a method of distributing data in a network in accordance with the invention. The components 110, 120, 130, 140 work together to deliver data that meets the geographic and demographic criteria.

After the method begins (step 405), the user preferably uses the client application 110 to connect to the data access network 120, and then the OSP server 130 (step 410). The particular manner of the connection depends on the network infrastructure underlying the connections. The important aspect of this step 410 is that a communications channel is established between the client application 110 and the OSP server 130. By "communications channel," it is meant a logical path for data transmission. The OSP server 130 preferably acts as a gatekeeper to the online services. Only after the OSP server 130 has authorized access can the local device 100 access the web server 150 and the other resources of the online service.

The communication channel may be of two varieties – dial-up or constant-connection. In a dial-up communication channel, the connection to the online service becomes available only after the local device 100 creates a physical link to the online network and then a logical link to the online network. For example, the local device 100 has a -up communication channel if the local device 100 has a modem and connects through tone dialing to the online service using the PSTN. In a constant-connection communication channel , the connection to the online service is always available to the local device 100, and the local device need only create a logical link to the online network. For example, the local device 100 has a constant-connection communication channel when the local device 100 has a cable modem and connects to the online service using a cable service.

If this is the first time the user has connected (step 415), then the OSP server 130 preferably requires the user to use the local device 100 to submit personal profile information (step 420). Preferably, the OSP server 130 periodically will request (step 425) that the client application 110 have the user update this profile (step 430).

Each time the local device 100 connects to the OSP server 130, the OSP server 130 preferably obtains data indicating the local device's current geographic location (step 435). This geographic information is preferably derived from a local access phone number used by the client application 110 to connect to the data access network 120, and the client application 110 transmits its local access phone number to the OSP server 130 for geographic determination purposes.

Once connected, a number of processes are preferably started (step 440). In one of these processes, whenever the user interacts with data received on the client application 110, the client application 110 sends feedback information respecting this interaction to the OSP server 130. The OSP server 130 then summarizes and classifies the feedback information into demographic profiles stored in the data store 140.

In another of these processes, whenever a user uses the browser application 160 to request or access data from the web server 150, the client application 110 sends feedback information respecting these requests and data accesses to the OSP server 130. The OSP server 130 then summarizes and classifies this feedback information into the demographic profiles in the data store 140.

In another of these processes, while a user's local device 100 is connected to the web server 150, the OSP server 130 determines which targeted data needs to be sent to the client application 110 and then transmits this targeted data to the client application 110. The OSP server 130 accomplishes this by:

- examining the scheduling requirements to determine which data needs to be sent;
- examining the demographic requirements of the data to determine to which demographic profiles the data needs to be sent;
- selecting the users who are currently connected that meet the demographic requirements of the data; and
- sending the data to the selected users.

As mentioned, one of the processes relates to the display of data, and particularly advertisements, in the client window 200. The process preferably operates in conjunction with a table database stored within the data stores 140. The following description is one way of embodying the database, and others are within the scope of the invention.

A User Information table holds information collected about the user, including the user's demographic categories, such as age, gender, occupation, geographic location,

interests, and hobbies. The OSP server 130 preferably creates the User Information records for each user when the user submits a personal profile during the first-time connection to the data access network 120. Additionally, the OSP server 130 preferably regular updates the User Information table in response to monitored user activities on the web server 150, including the type of network data the user requests and accesses. The User Information table preferably also holds the delivery preferences for each user, including the days and times at which to deliver advertisements, and the maximum number of advertisements to deliver in a given time period.

A set of Advertiser tables includes information about each organization that desires to have content-area advertisements transmitted to users. A Product table preferably exists for each product that the advertiser wishes to promote. Each Product table is preferably associated with at least one Advertisement table that includes information about the advertisement to be displayed to the user, including criteria fields relating to the demographic category or categories to which the advertisement is sent. The target criteria may be divided into several categories, such as geographic location, age, gender, marital status, hobbies, occupation, etc. The target criteria fields preferably each have corresponding fields in the User Information table. The Advertisement table may also include preferred times of day at which the advertisement is displayed to users.

There is also an Ad Performance table associated with each Advertisement table containing data relating to the performance of the advertisement. The Ad Performance table preferably contains data relating to usage and response to the advertisement, such as which user demographic categories have clicked-through the advertisement, the times of day of the click-throughs, the number of click-throughs by each demographic, types of merchandise purchased, purchase volume, questionnaire or survey responses, commerce transaction information, search data, browse data, shopping cart activities, and other information gathered or collected following the display of an advertisement.. This type of information may be obtained by monitoring usage by each user, as described in the above-referenced related applications.

The OSP server considers the advertisements for transmission and display to the user once the advertiser has established advertising records.

Referring now to Figure 5, there is shown a flow chart of a method of displaying advertisements to a user of an online service in accordance with the invention. This method generally involves the display of advertisements that are dynamically targeted toward the user based upon the user's demographic profile, geographic profile, and usage history.

After the method begins (step 500), the client application is activated (step 510). The client application 110 may be installed during manufacture of the local device 100, during use of the local device 100 at the instigation of the user, or may occur automatically as a consequence of other processes. Furthermore, the client application 110 may be activated either manually or automatically. Although at least some aspects of the client application 110 should be operable from the local device 100, the client application 110 need not be stored on the local device 100 and can be run from a remote location.

In the next step (step 520), the client application 110 establishes a communication channel to the online service. With the communication channel established, the client application 110 receives an advertisement play list from the OSP server 130 (step 530). The play list comprises one or more ad objects. The ad objects are preferably data constructs which each include a resource locator of an advertisement to be displayed, a resource locator to be accessed if the user clicks on (or otherwise selects) the advertisement when displayed in the ad pane 210, and a number of attributes for the display of the advertisement. The play list preferably specifies an order in which the advertisements identified in the play list are to be displayed. Additionally, the play list specifies the amount of time that each advertisement is displayed.

Typically, advertisements in the online industry are associated with a resource locator, and more typically with a URL. As is well known, when a user uses his pointing device 103 to click on an online advertisement in a browser's window such as browser window 300, the browser application loads the resource at the associated URL. This is commonly known as "click-through." In accordance with the invention, if during the display of an advertisement in the ad pane 210, the user clicks-through on the advertisement, then the client application

110 causes the resource locator associated with the advertisement to be loaded by the browser application 160. If the browser application 160 is not open at the time, then the browser application is first opened and then pointed to the resource locator associated with the advertisement. If the resource locator is not for a web page, the client application 110 or some other software in the local device 100 preferably causes the appropriate application to open so that the resource locator may be opened.

After the client application 110 receives the play list (step 530), the client application 110 displays advertisements in the client window 200 in accordance with the on-line play list (step 540). The client application 110 may also display advertisements in the client window 200 prior to and during establishment of the communication channel in accordance with a logon play list, as described in the above-referenced related application.

The client application 110 periodically determines whether to obtain a new play list from the OSP server 130 (step 550). The client application 110 may automatically download a new play list upon the occurrence of certain events such as after the last advertisement in the play list has been displayed or at predetermined time intervals. The OSP server 130 may also automatically prompt the client application to obtain a new play list upon the occurrence of certain events such as after a new, targeted play list is compiled, as described below. If circumstances warrant obtaining a new play list, then the client application obtains an updated play list from the OSP server (step 530).

In any event, the client application 110 continues to display ads in accordance with the play list while the user uses the online service (step 560).

The OSP server 130 preferably compiles a separate play list for each user of the online service. Each user-specific play list contains advertisements that are particularly targeted toward the corresponding user based upon user-specific characteristics such as the user's demographics and usage history. With reference to Figure 6, the ad targeting capabilities of the OSP server 130 are described. After the method begins (step 600), the client application 110 establishes a communication channel with the network (step 605). The OSP server 130 conducts a correlation or match between the user and the pool of available advertisements

(step 610). The advertisement correlation is preferably initially performed whenever the client application 110 establishes a communication channel with the OSP server 130.

The OSP server 130 performs a best fit-analysis between the user and the available advertisements and compiles a list of advertisements that are particularly suited for the user. The best-fit analysis is preferably performed by determining field matches between the Advertiser tables and the User tables in conjunction with a predetermined field priority schedule. A set of best-fit advertisements for the user is then compiled by the OSP server 130.

The OSP server then establishes a play list for the user (step 615) comprised of one or more of the advertisements selected in the best-fit analysis. The order of the advertisements in the play list may be arbitrarily determined. Alternately, the order may be determined according to a priority protocol that is preferably related to the user's usage history with the network. Preferably, advertisements related to subject matter that the user commonly requests or accesses data on are placed at the top of the play list. The play list preferably also includes at least one randomly selected advertisement that may or may not be related to the user's demographic profile to allow for random testing of advertisements with the user. However, the quantity of randomly-selected advertisements is preferably minimized so as not to interfere with the provision of targeted advertisements.

The play list preferably includes several advertisements compiled from the general profile of the user determined over the user's entire history with the online service. However, the play list could also comprise a single advertisement that is specially selected for the user based only upon the user's most-recently monitored activities on the web server 150, including the type of network data the user is requesting during the current online session. For example, if, during the online session, the user is requesting or searching for data relating to automobiles, then the play list preferably comprises an automobile-related advertisement. The advertisement may include a special banner notifying the user that the advertisement was specially selected to assist the user in gathering information during the online session. Preferably, this will bolster the user's confidence in the advertisement display process so that the user has an increased tendency to review the advertisements in the client window 200.

In any event, the OSP server 130 next provides the client application 110 with the new play list (step 620). Preferably, the OSP server prompts the client application 110 to download a play list whenever the play list has been updated. In this manner, the user is regularly provided with an updated, optimized play list.

For a given user, the OSP server 130 periodically determines whether to compile an updated play list (step 625). The OSP server 130 may be configured to automatically update the play list upon the occurrence of certain events, such as when the targeting criteria of the advertisement records undergo a change. The OSP server 130 may also be configured to automatically update the play list at predetermined time intervals. The client application 110 may also prompt the OSP server 130 to update the play list when the current play list is at or near the last advertisement in the play list.

If circumstances warrant that the play list should be updated, then a new play list is formulated based upon a best-fit match between the user and the advertisement records (steps 610 and 615). This process continues until the user logs off of the network (steps 630, 635).

Referring now to Figure 7, there is shown a flow chart of a method of dynamically optimizing an advertisement's targeting criteria based upon the performance of the advertisement. After the method begins (step 700), the OSP server 130 accesses the records from the data stores 140 relating to the performance and target criteria for a given advertisement (step 710). The OSP preferably compares the performance records in the Ad Performance table with the target criteria in the Advertisement table to ascertain whether the target criteria should be refined based upon the monitored performance of the advertisement.

Based upon this comparison, the OSP server 130 then determines whether to update the target criteria in the Advertisement table for the given advertisement (step 710). The OSP server 130 may use various criteria to determine when to modify an advertisement's target criteria. One such criterion relates to the demographic categories that have performed click-throughs on the advertisement. The OSP server 130 preferably updates the advertisement's target criteria if a predetermined quantity of users of a given demographic category have performed click-throughs on the advertisement and that demographic is not included in the

advertisement's target criteria (step 720). The Advertisement table is revised to include the non-included demographic category as target criteria.

For example, the comparison between the advertisement performance records and the advertisement target criteria records may indicate that users of an 18-24 year-old age group commonly click-through the advertisement but that age group is not included in the target criteria for the advertisement. The OSP server then updates the Advertiser table to include the 18-24 year-old age group under target criteria. The advertisement is thereafter targeted to 18-24 year-old users.

Another criterion for updating an advertisement's target criteria is the times of day that users perform click-throughs on the advertisement. The performance records of the advertisements may indicate that the advertisement receives a high number of click-throughs at certain hours of the day. The Advertisement table is preferably updated so that the rotation of the associated advertisement is increased during those hours of the day.

The target criteria for a given advertisement is preferably also updated when the corresponding performance records indicate that the advertisement is performing poorly, such as if the advertisement receives little or no click-throughs from the target audience, or if the advertisement receives little or no click-throughs at certain hours of the day. In this case, the OSP server 130 preferably modifies the target criteria of the advertisement to include additional demographic categories that may or may not be related to the current target demographic categories. The OSP server 130 may also modify the display hours of a poorly-performing advertisement to increase its rotation and thereby pique user interest.

The target criteria for each advertisement is preferably regularly modified to at least temporarily include randomly-selected demographic categories. This will allow the advertisement to be periodically displayed to random users, thereby allowing the advertiser to monitor the performance of the advertisement with new audiences and perhaps expand the scope of the advertisement.

The OSP server 130 preferably automatically performs the advertisement targeting optimization method on a regular basis for each advertisement record in the data stores 140.

The OSP server 130 may be configured to perform the process at times when online usage is traditionally below peak levels, such as during the middle of the night.

In certain circumstances, the OSP server may automatically transmit at least one advertisement to a user's local device 100 for immediate, real time display to a user, rather than for display as part of a play list. Such an advertisement is referred to herein as a "real time advertisement," which is an advertisement that the OSP server 130 automatically transmits to the local device 100 of one or more users for immediate display.

Certain advertisements may exhibit such a strong performance with online users of a certain demographic category to warrant sending the advertisement as a real time advertisement to other users of the same or similar demographic category. With reference now to Figure 8, there is shown a flow chart of a method of displaying an advertisement as a real time advertisement to users of a given demographic category if the advertisement exhibits a strong response from other users of the same or similar demographic category.

The method begins when a user performs a click-through on an advertisement (the "subject advertisement") (step 810). The OSP server 130 then accesses and examines the performance records for the subject advertisement and ascertains whether the subject advertisement has received a good response from users of the same or similar demographic category or categories as the current user (step 815). Preferably, each demographic category is associated with a set of predetermined demographic categories that are deemed to be similar categories.

The criteria for whether an advertisement has received a "good response" from a demographic may vary. Some possible criteria are: the total number of click-throughs on the advertisement by users of that demographic, click-throughs on the advertisement as a percentage of total number of click-throughs on all advertisements, or number of click-throughs within a given time span.

Based upon the analysis of the subject advertisement's performance records, the OSP server 130 next determines whether the advertisement should be displayed as a real time advertisement to users of the same or similar demographic category as the current user (step

820). If it is determined that the subject advertisement has received a good response, then the OSP server 130 prompts the client applications 110 of users of the same or similar demographic category to interrupt the respective advertisement play lists (step 825). The subject advertisement is then displayed to the users as a real time advertisement for a predetermined time span (step 830). The subject advertisement may or may not be in the interrupted play lists.

In lieu of interrupting the users' play lists and displaying the subject advertisement in the regular client window 200, the subject advertisement may be prominently displayed in a separate, specially-reserved window on the display device 101. The separate window is preferably a unique color or shape with respect to the other displayed windows to increase its prominence. The window could include a banner that refers to the strong performance of the advertisement with other, similar users and thereby entices the user to click on the advertisement. For example, the banner could read, "Click here to join the hype" or "Get in on the excitement."

In any event, the separate window is preferably only used in limited circumstances to preserve the novelty of the window and thereby increase the likelihood of attracting a user's attention. Toward this end, the separate window is preferably used a maximum number of times per week or month for each user and only for a limited time span.

After the subject advertisement has been displayed for the predetermined time span, the client application 110 continues with the play list of each individual user (step 835). The play list preferably continues from the point at which it was interrupted. The advertisement that was interrupted may be redisplayed for its entire time span allotment. Alternately, the interrupted advertisement may be displayed for the remaining time allotment from the point at which it was interrupted so that the play list is essentially paused while the real time advertisement is displayed. In another alternative, the client application 110 of each user may prompt the OSP server 130 to compile a new, updated play list for the user after the play list has been interrupted. The process is then complete (step 840).

Strong performance is just one criterion for transmitting an advertisement as a real time advertisement. Other criteria could also be used. For example, the method shown in

Figure 8 could also be used where the subject advertisement is a poorly-performing advertisement in an attempt to increase user interaction with the advertisement. The method is preferably initiated if it is determined that advertisement is performing poorly, such as if the advertisement receives less than a minimum quantity of click-throughs from its target audience.

In the case of poorly-performing advertisements, the subject advertisement is preferably automatically sent to users of randomly-selected demographic categories as well as users of the specified target audience. This allows the advertiser to test the poorly-performing subject advertisement with new audiences and, if necessary, modify the advertisement's target criteria. The subject advertisement could include a special banner or title that entices the user to click on the subject advertisement and preferably increase the subject advertisement's performance with users.

Although exemplary embodiments of the present invention have been shown and described, it will be apparent to those having ordinary skill in the art that a number of changes, modifications, or alterations to the invention as described herein may be made, none of which depart from the spirit of the present invention. All such changes, modifications and alterations should therefore be seen as within the scope of the present invention.

CLAIMS

It is claimed

1. A method of selecting advertisements for display to users of an online service, each user using a client application on a local device, each local device comprising an input device and an output device, the local devices accessing the online service and providing interaction with an OSP server associated with the online service, the method comprising:
 - (a) the client application establishing communication channels from each of the local devices to the online service;
 - (b) the OSP server transmitting an advertisement to the client application;
 - (c) the client application causing the advertisement to be displayed on the output device of the local device of a first user, wherein the first user is associated with a demographic category;
 - (d) the OSP server monitoring whether the first user performs a click-through on the advertisement;
 - (e) if the first user performs a click-through on the advertisement, the OSP server automatically causing the advertisement to be displayed on the output device of the local device of a second user that is associated with the same demographic category as the first user.
2. The method of selecting advertisements for display to users of an online service as set forth in Claim 1, further comprising monitoring the quantity of click-throughs that have been performed on the advertisement by users of the demographic category.

3. The method of selecting advertisements for display to users of an online service as set forth in Claim 2, further comprising automatically causing the advertisement to be displayed on the output device of the local device of the second user only if the quantity of click-throughs on the advertisement by users of the demographic category has exceeded a predetermined threshold quantity.
4. The method of selecting advertisements for display to users of an online service as set forth in Claim 1, additionally comprising the OSP server interrupting an advertisement play list of the second user prior to causing the advertisement to be displayed on the output device of the second user.
5. A method of selecting advertisements for display to a user of an online service using a client application on a local device, the local device comprising an input device and an output device, the local device accessing the online service and providing interaction with an OSP server associated with the online service, the method comprising:
 - (a) the client application activating;
 - (b) the client application establishing a communication channel from the local device to the online service;
 - (c) the client application displaying a client window on the output device of the local device;

- (d) the OSP server accessing advertisement records from a data store, the advertisement records comprising at least one ad object associated with a given advertisement, each ad object comprising a resource locator and advertisement targeting criteria;
- (e) the OSP server accessing a user record comprising user-specific information;
- (f) the OSP server comparing the targeting criteria of each ad object with the user-specific information in the user record and identifying at least one advertisement for display to the user based upon the comparison;
- (g) the OSP server compiling an advertisement play list comprised of at least one of the identified ad objects;
- (h) the client application causing advertisements to be displayed in an ad pane of the client window, wherein the display of advertisements operates in accordance with the play list;
- (i) the OSP server modifying the targeting criteria of at least one of the ad objects in the advertisement records based upon the performance of the ad object with users of a given demographic category;
- (j) the OSP server re-comparing the targeting criteria of each ad object with the user-specific information in the user record and identifying at least one advertisement for display to the user based upon the re-comparison;
- (k) the OSP server compiling a new advertisement play list comprised of at least one of the identified ad objects; and
- (l) the client application causing advertisements to be displayed in an ad pane, wherein the display of advertisements operates in accordance with the new play list.

6. The method of selecting advertisements for display to a user of an online service as set forth in Claim 5, wherein the OSP server comprises several physical devices which as a group provide the online service.
7. The method of selecting advertisements for display to a user of an online service as set forth in Claim 5, wherein the play list identifies an order in which the advertisements in the play list are to be played.
8. The method of selecting advertisements for display to a user of an online service as set forth in Claim 5, additionally comprising monitoring the user's interaction with an advertisement and modifying the targeting criteria of the ad object associated with the advertisement.
9. The method of selecting advertisements for display to a user of an online service as set forth in Claim 5, wherein the advertisement targeting criteria and the user-specific information comprise the following categories: geographic location, age, occupation, and gender.

10. A method of selecting advertisements for display to a user of an online service using a client application on a local device, the local device comprising an input device and an output device, the local device accessing the online service and providing interaction with an OSP server associated with the online service, the method comprising:

- (a) the OSP server establishing an advertisement record for at least one advertisement, each advertisement record comprising an ad object comprised of a resource locator for the advertisement and data relating to a desired target audience for the advertisement;
- (b) the OSP server establishing a user record including data specific to the user, wherein at least a portion of the user-specific data corresponds to the target audience data;
- (c) the OSP server comparing the target audience data for each advertisement record with the user-specific data for the user;
- (d) the OSP server compiling a best-fit play list of advertisements for display to the user based upon the comparison of the advertisement records and the user-specific data, wherein the play list identifies an order in which the advertisements in the play list are to be played.;
- (e) the client application establishing a communication channel from the local device to the online service;
- (f) the client application causing advertisements to be displayed in an ad pane of a client window on the display device, wherein the display of advertisements operates in accordance with the play list.

11. The method of selecting advertisements for display to a user of an online service as set forth in Claim 10, further comprising:

(a) the OSP server modifying the target audience data of at least one of the ad objects;
(b) the OSP server compiling a new play list of advertisements for display to the user;
(c) the client application displaying advertisements in an ad pane of a client window on the display device, wherein the display of advertisements operates in accordance with the new play list.

12. The method of selecting advertisements for display to a user of an online service as set forth in Claim 10, further comprising interrupting the display of advertisements of the play list and displaying a single advertisement in the ad pane, wherein the single advertisement is not in the play list.

13. The method of selecting advertisements for display to a user of an online service as set forth in Claim 12, further comprising the client application causing advertisements to continue to be displayed in an ad pane of a client window on the display device in accordance with the play list after the single advertisement has been displayed.

14. The method of selecting advertisements for display to a user of an online service as set forth in Claim 10, wherein the target audience data and the user-specific data comprise data relating to age, gender, geographic location, and marital status.

15. A method of provisioning advertisements for display to users of an online service using client applications on local devices, each user being associated with at least one demographic category, the local devices each comprising an input device and an output device, the local devices accessing the online service and providing interaction with an OSP server associated with the online service, the method comprising:

- (a) the OSP server establishing an ad object comprised of a resource locator for a given advertisement and data relating to a desired target audience for the given advertisement, the target audience data comprising demographic categories;
- (b) the client device causing the advertisement to be displayed on the output devices of the local devices of the users;
- (c) the OSP server monitoring the users' click-throughs on the advertisement when the advertisement is displayed on the output devices and compiling a list of user demographic categories that have clicked through the advertisement;
- (d) the OSP server determining whether there are any user demographic categories that: (i) have performed a click-through on the advertisement and (ii) are not included in the advertisement's target audience data;
- (e) the OSP server modifying the targeting criteria of the ad object to include any non-included demographic category.

16. The method of provisioning advertisements for display to users of an online service using client applications on a local devices as set forth in Claim 15, wherein the demographic categories comprise age, geographic location, gender, occupation, and marital status.

17. The method of provisioning advertisements for display to users of an online service using client applications on a local devices as set forth in Claim 15, further comprising:

- (a) the OSP server recording the quantity of users from each demographic category that have performed click-throughs on the advertisement; and
- (b) the OSP server modifying the targeting criteria of the ad object to include any non-included demographic category only after a predetermined quantity of users from the non-included demographic category have clicked through the advertisement.

18. The method of provisioning advertisements for display to users of an online service using client applications on a local devices as set forth in Claim 17, wherein the demographic categories include age group, geographic location, gender, marital status, and occupation.

19. The method of provisioning advertisements for display to users of an online service using client applications on a local devices as set forth in Claim 15, wherein the advertisement is displayed in accordance with an advertisement play list comprised of at least one ad object, each ad object being associated with a given advertisement.

20. The method of provisioning advertisements for display to users of an online service using client applications on a local devices as set forth in Claim 15, additionally comprising compiling a separate advertisement play list for each user.

21. A system for selecting advertisements for display to users of an online service, the users utilizing the online service with respective local devices, wherein the local devices display advertisements from the online service the system comprising a computer program product comprising a computer usable medium having ad targeting software for causing an OSP server to:

- (a) obtain personal profile information and online usage history information about plural users;
- (b) obtain advertisement provisioning information from plural advertisers;
- (c) perform a best-fit match between the personal profile information and the online usage history information about the plural users and the advertisement provisioning information for a given advertisement to thereby identify a first group of users for receipt of the given advertisement;
- (d) transmit instructions to the local devices of the first group of users to display the given advertisement;
- (e) monitor performance of the given advertisement, wherein performance of the given advertisement comprises whether the users of the first group click-through on the given advertisement;
- (f) test if the performance of the given advertisement meets predefined performance criteria, and if so, then
 - (1) correlate the personal profile information and the online usage history information of the users who clicked-through on the given advertisement;
 - (2) identify a second group of users having personal profile information and

online usage history information consistent with the correlated personal profile information and online usage history information of the users who clicked-through on the given advertisement;

(3) transmit instructions to the local devices of the second group of users to display the given advertisement.

22. The system for selecting advertisements for display to users of an online service of claim 21, the ad targeting software additionally for causing the OSP server to prepare play lists for each of the users of the first group of users, the play lists comprising an ad object corresponding to the given advertisement, the play lists further comprising ad objects corresponding to additional advertisements identified in the best-fit match, the ad objects comprising resource locators for the advertisements' displays; the ad targeting software additionally for causing the OSP server to transmit instructions to the local devices of the second group of users to display the advertisements of the respective play lists.

23. The system for selecting advertisements for display to users of an online service of claim 22, the ad targeting software additionally for causing the OSP server to prepare play lists for each of the users of the second group of users, the play lists comprising ad objects corresponding to the advertisements identified in best-fit matches; the ad targeting software additionally for causing the OSP server to transmit instructions to the local devices of the second group of users to display the advertisements of the respective play lists.

24. The system for selecting advertisements for display to users of an online service of claim 23, the ad targeting software additionally for causing the OSP server to transmit instructions to the local devices of the second group of users to interrupt the respective play lists of the second group of users and display the given advertisement.
25. The system for selecting advertisements for display to users of an online service of claim 23, the ad targeting software additionally for causing the OSP server to include the given advertisement in the respective play lists of the second group of users.
26. The system for selecting advertisements for display to users of an online service of claim 21, wherein the online usage history information comprises psychographic qualities of the user based upon subject matter that the user has requested from the online service.
27. The system for selecting advertisements for display to users of an online service of claim 21, wherein the personal profile information comprises demographic and geographic qualities of the user.

28. The system for selecting advertisements for display to users of an online service of claim 21, the ad targeting software additionally for causing the OSP server to transmit instructions to the local devices of the second group of users to display the given advertisement without delay.

29. The system for selecting advertisements for display to users of an online service of claim 21, wherein the predefined performance criteria comprises a predetermined number of users of the first group of users clicking-through on the given advertisement.

30. The system for selecting advertisements for display to users of an online service of claim 21, the play lists further including a resource locator for click-through.

31. The system for selecting advertisements for display to users of an online service of claim 21, further including client applications operative on the local devices and responsive to instructions from the OSP server.

32. A system for selecting advertisements for display to users of an online service, the users utilizing the online service with respective local devices, the system comprising a computer program product comprising a computer usable medium having ad targeting software for causing an OSP server to:

- (a) obtain personal profile information and online usage history information about plural users;
- (b) obtain advertisement provisioning information from plural advertisers, wherein each advertisement has associated therewith an ad object, the ad object comprising a resource locator for the display of the advertisement;
- (c) perform a best-fit match between the personal profile information and the online usage history information about the plural users and the advertisement provisioning information for plural advertisements,
- (d) based upon the best-fit match, prepare a play list for each user, the play list for a given user comprising the ad objects associated with the matched advertisements for the given user;
- (e) transmit the play list for each user to the local device of that user for display of the advertisements referenced in the play list by the local device;
- (f) monitor performance of a given advertisement, wherein performance of the given advertisement comprises whether the users having the given advertisement in their play list click-through on the given advertisement;
- (g) test if the performance of the given advertisement meets predefined performance criteria, and if so, then
 - (1) correlate the personal profile information and the online usage history information of the users who clicked-through on the given advertisement;
 - (2) identify a first group of users having personal profile information and online usage history information consistent with the correlated personal profile information and online usage history information of the users who clicked-through on the given

advertisement;

(3) prepare play lists for the first group of users including the ad object of the given advertisement.

33. The system for selecting advertisements for display to users of an online service of claim 32, the ad targeting software further for causing the OSP server to include only the ad object of the given advertisement in the play lists.

34. The system for selecting advertisements for display to users of an online service of claim 32, the ad targeting software further for causing the OSP server to include ad objects for other advertisements in addition to the given advertisement in the play lists.

35. The system for selecting advertisements for display to users of an online service of claim 34, wherein the other advertisements are selected for each user of the first group of users on an individual basis.

36. The system for selecting advertisements for display to users of an online service of claim 32, wherein the predefined performance criteria comprises a predetermined number of users clicking-through on the given advertisement.

37. The system for selecting advertisements for display to users of an online service of claim 32, the play lists further including a resource locator for click-through.

38. The system for selecting advertisements for display to users of an online service of claim 32, further including client applications operative on the local devices and responsive to instructions from the OSP server.

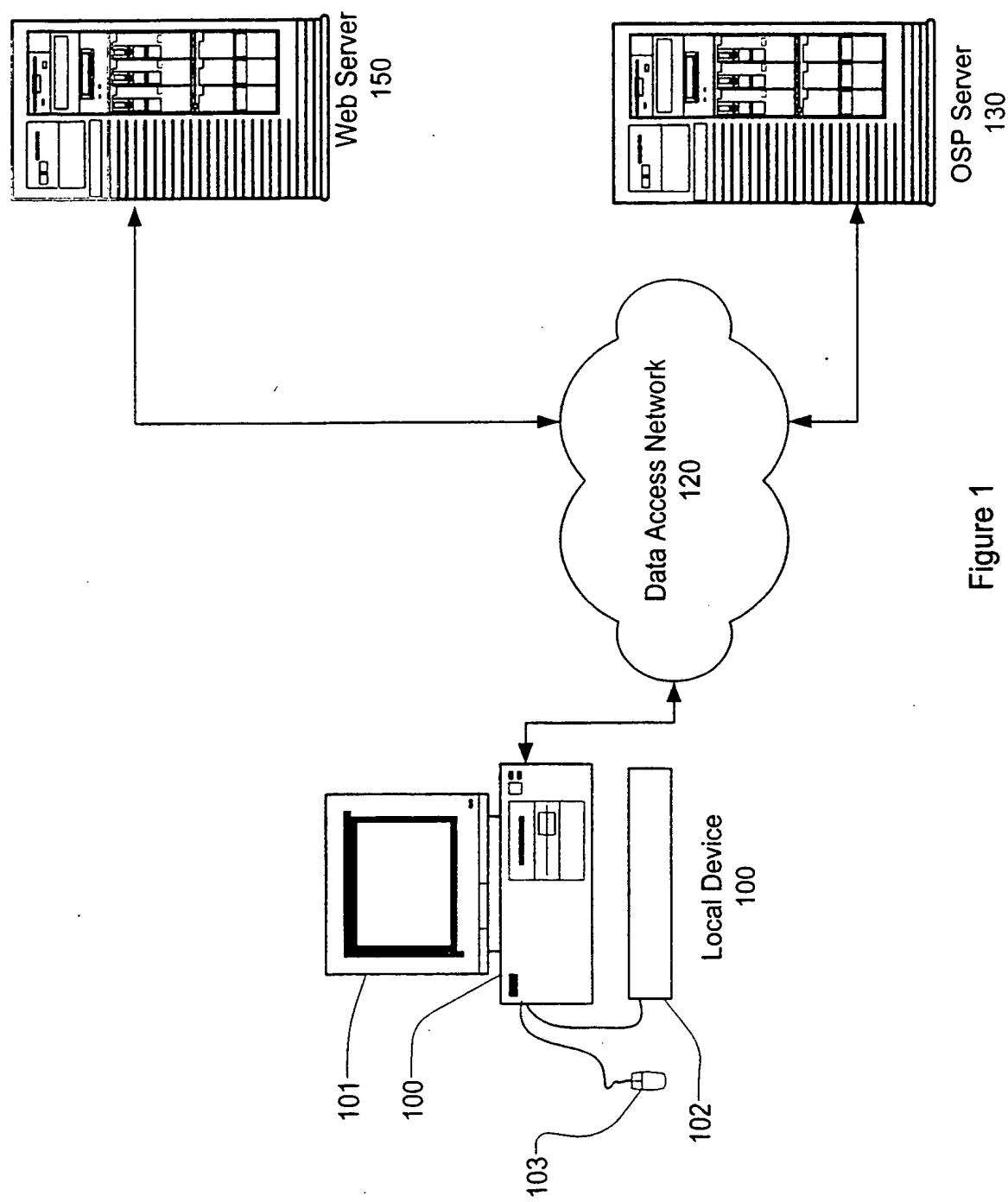
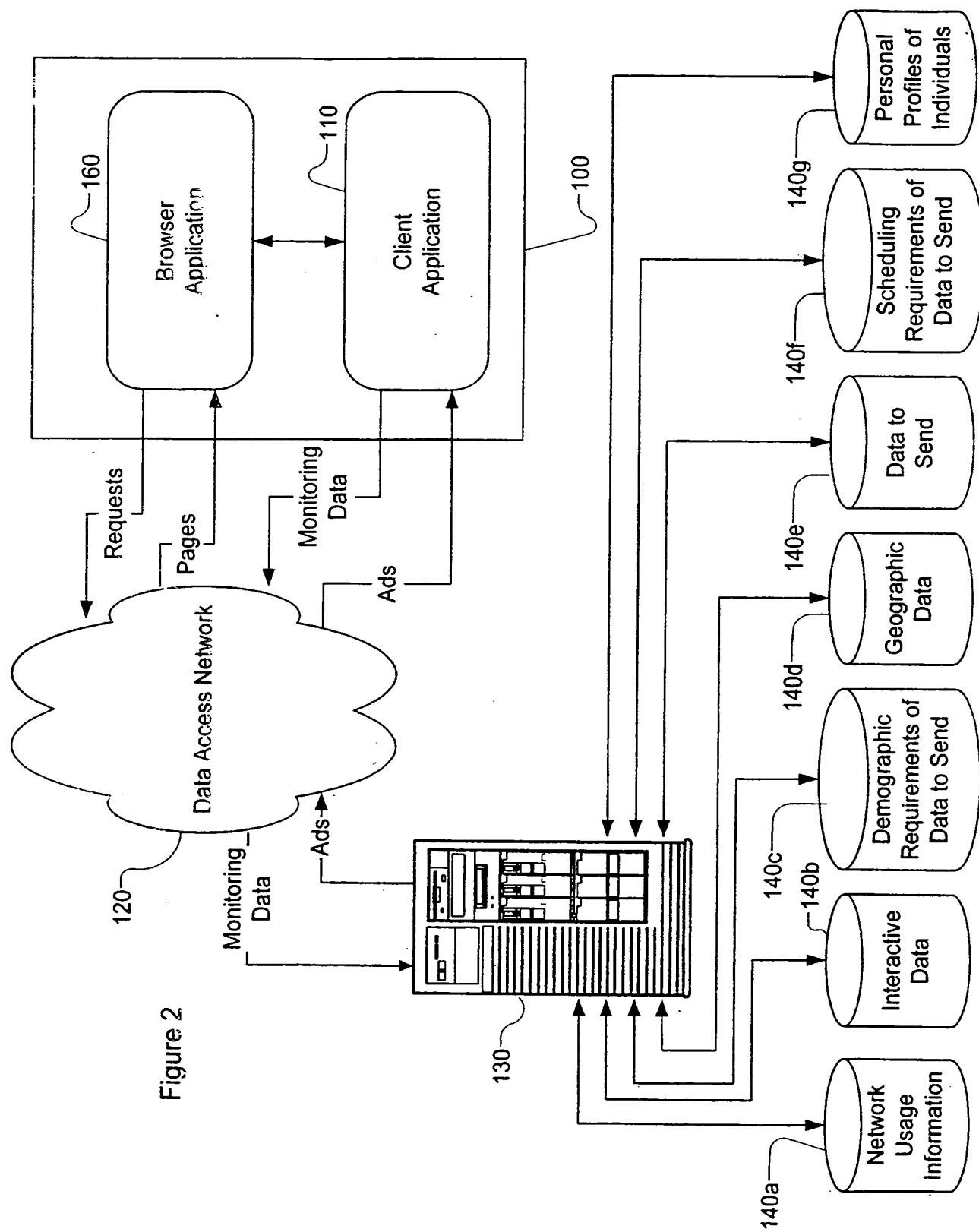
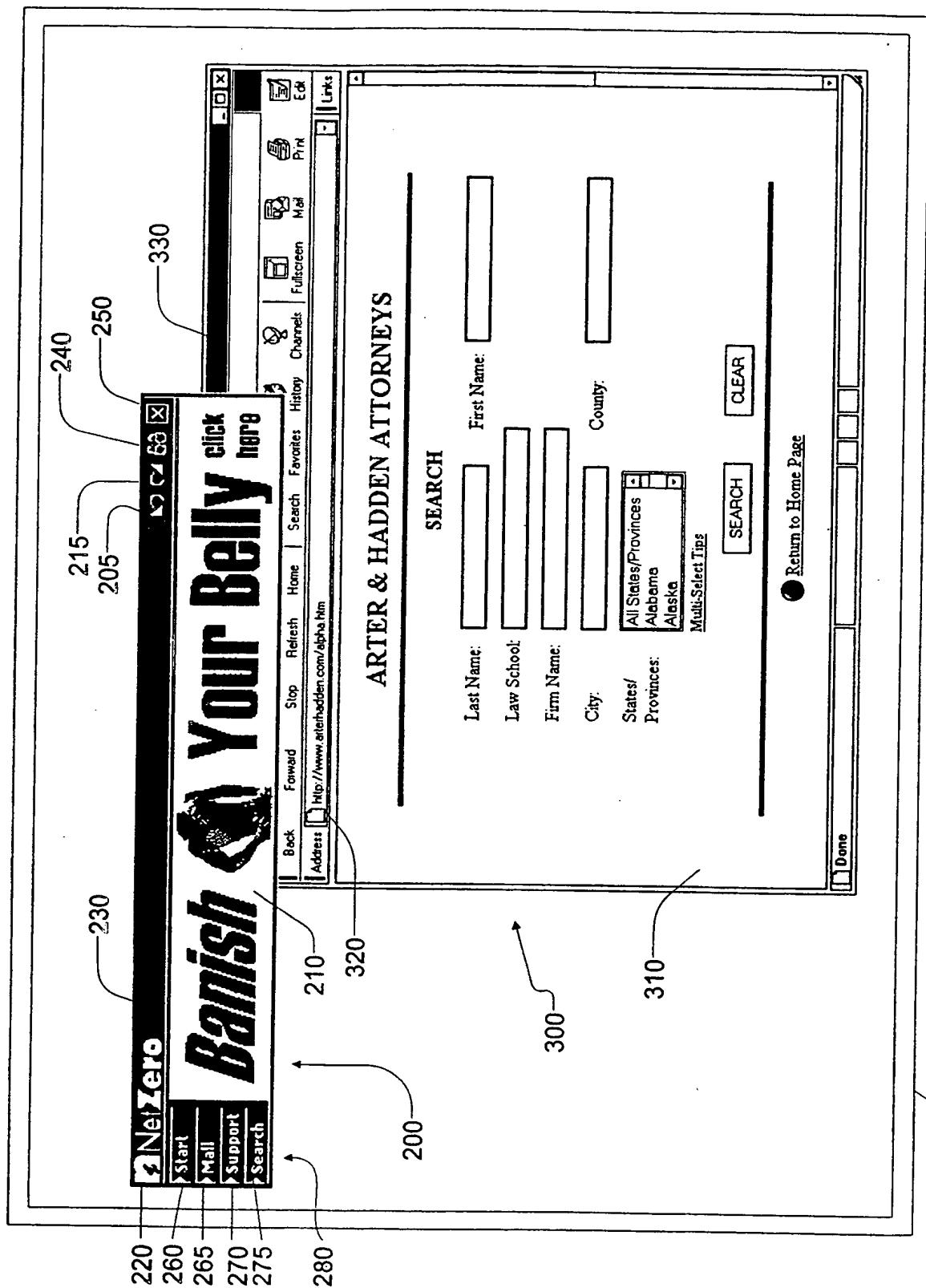


Figure 1





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Figure 3

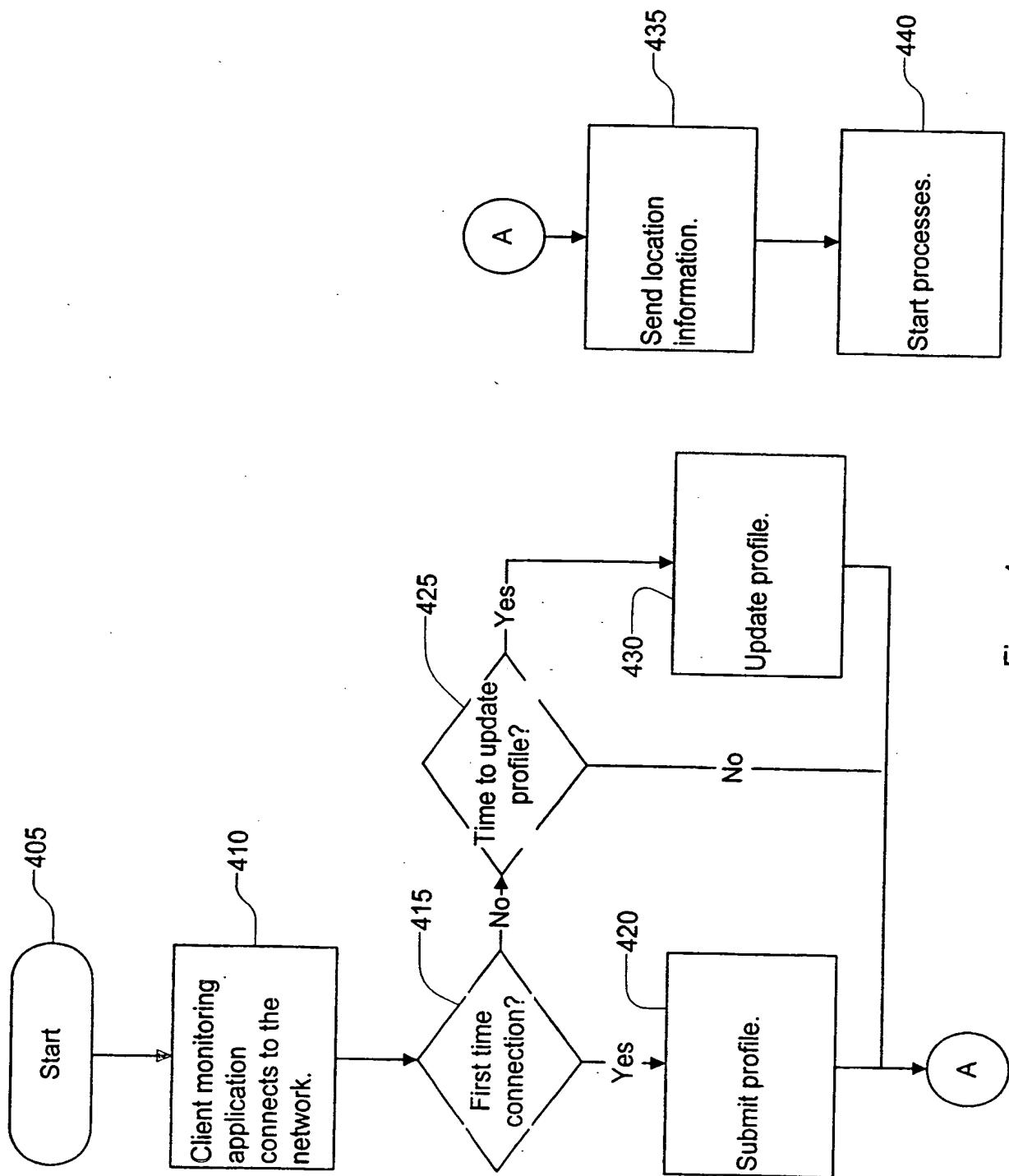


Figure 4

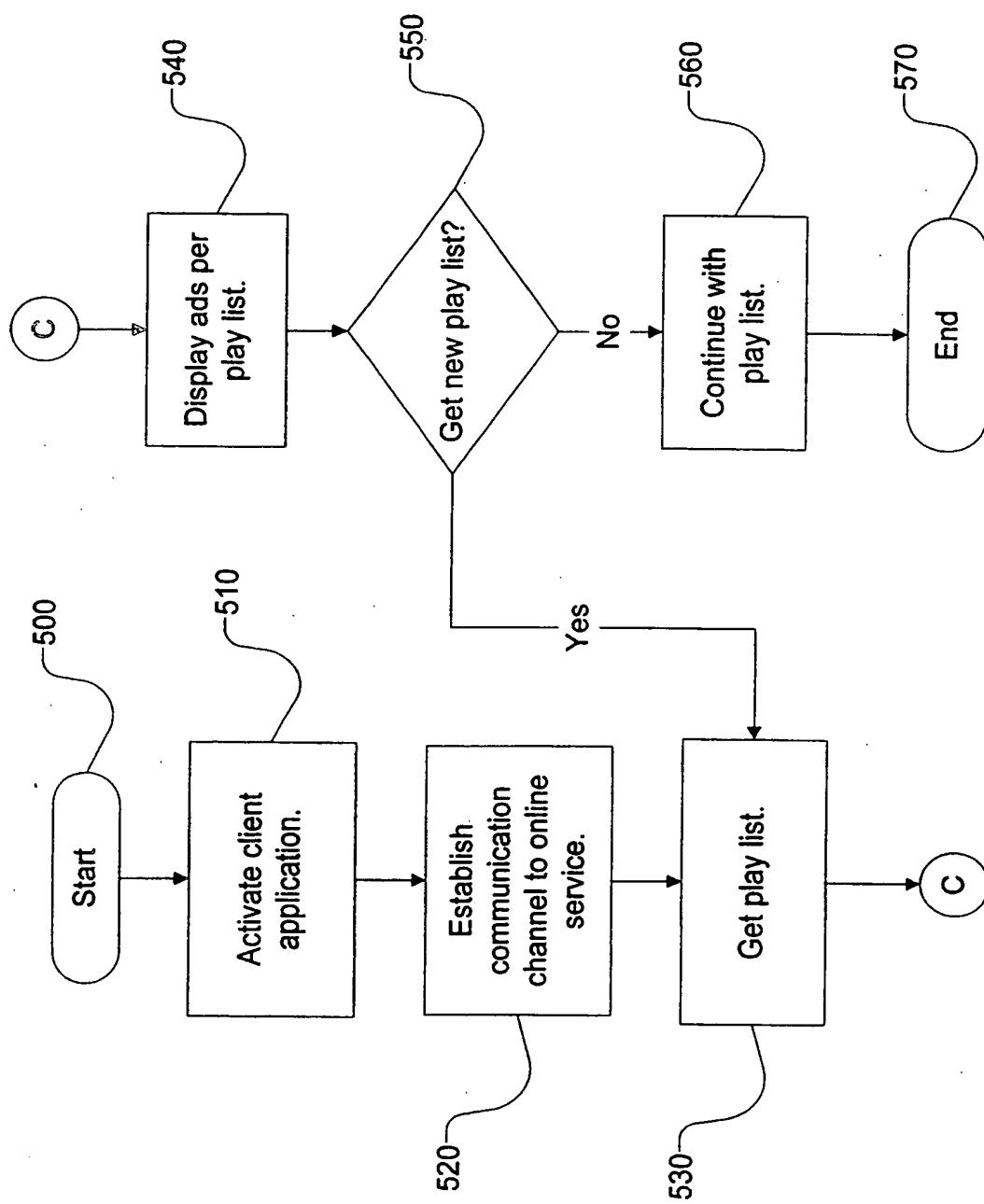


Figure 5

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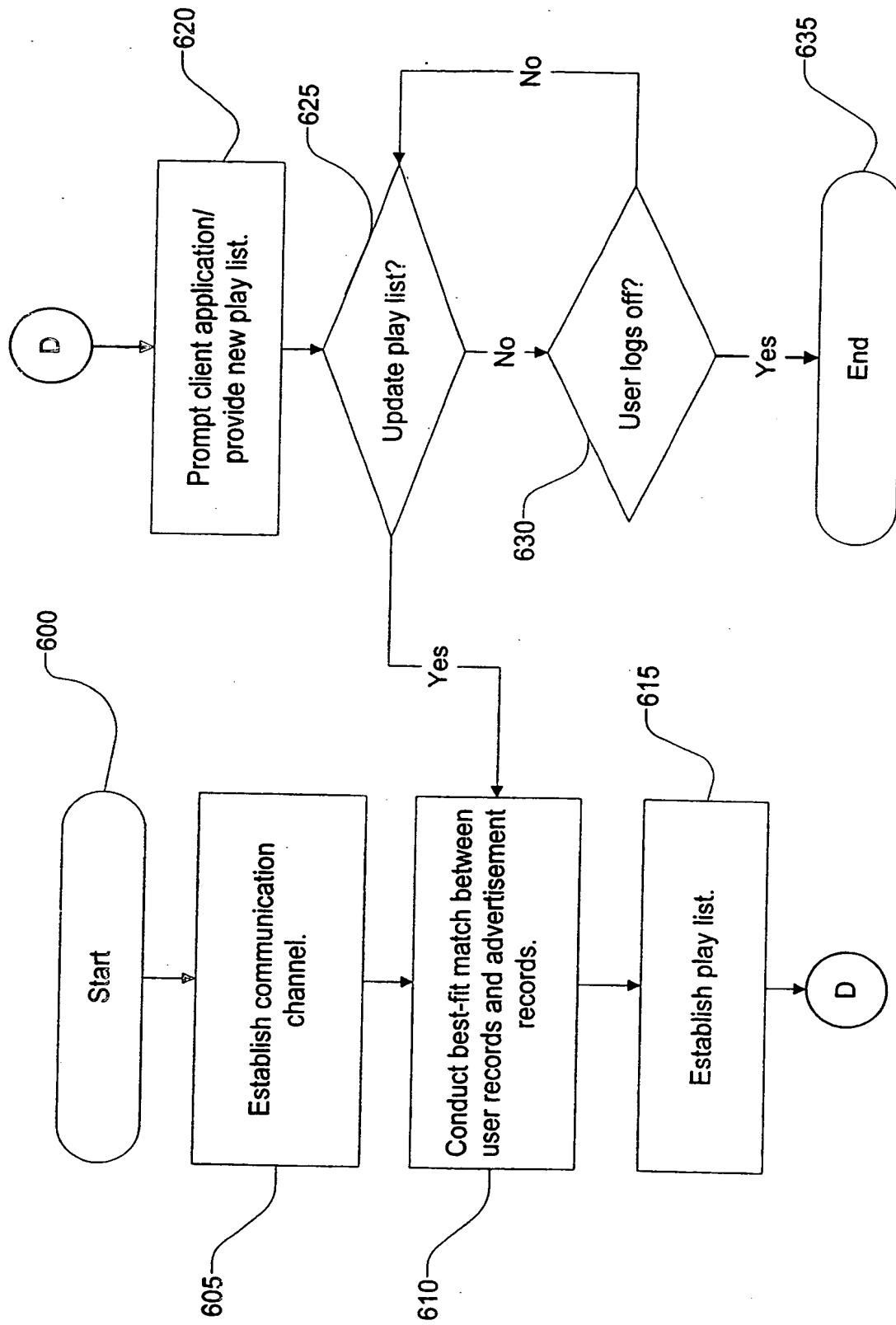


Figure 6

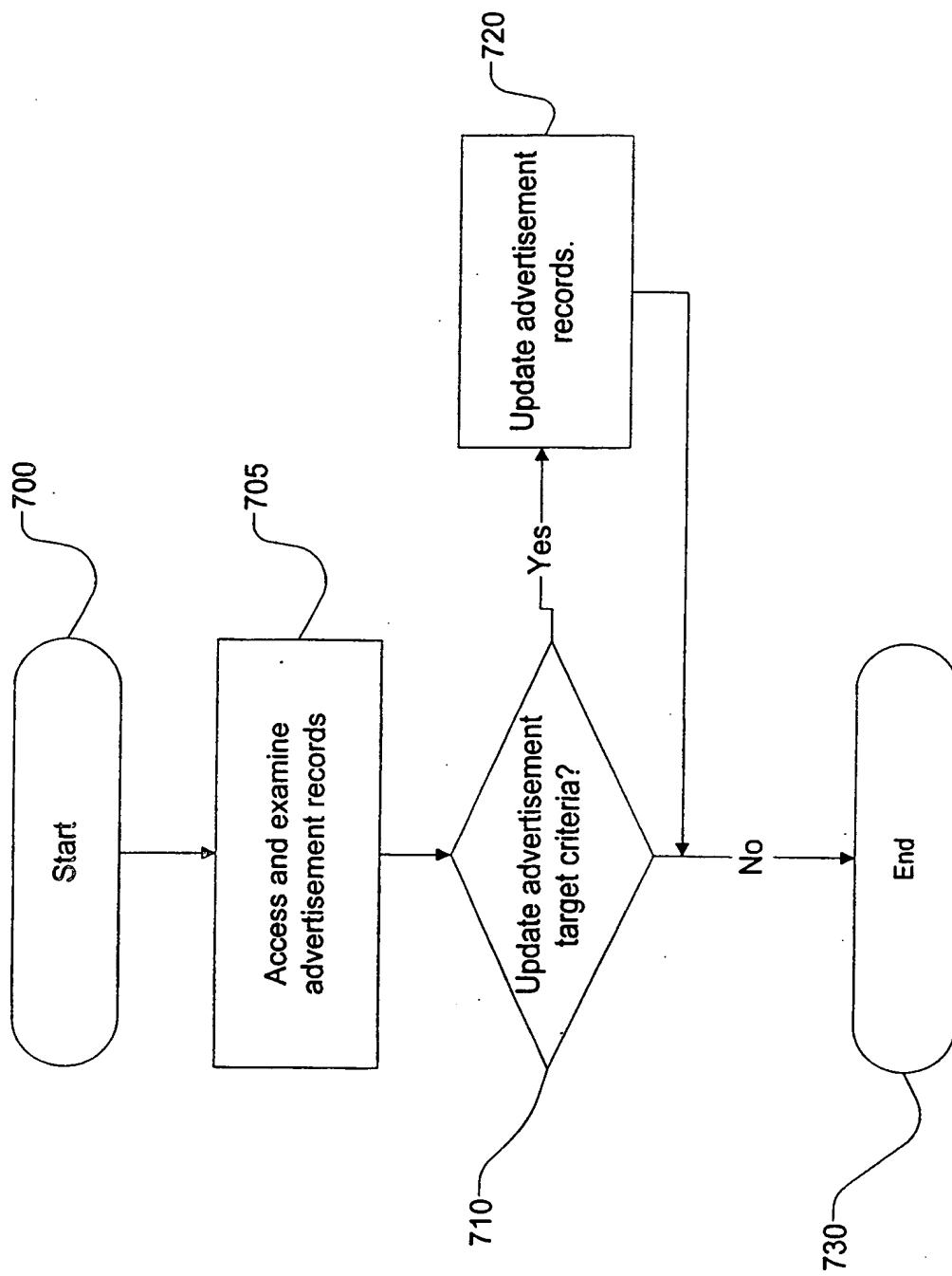


Figure 7

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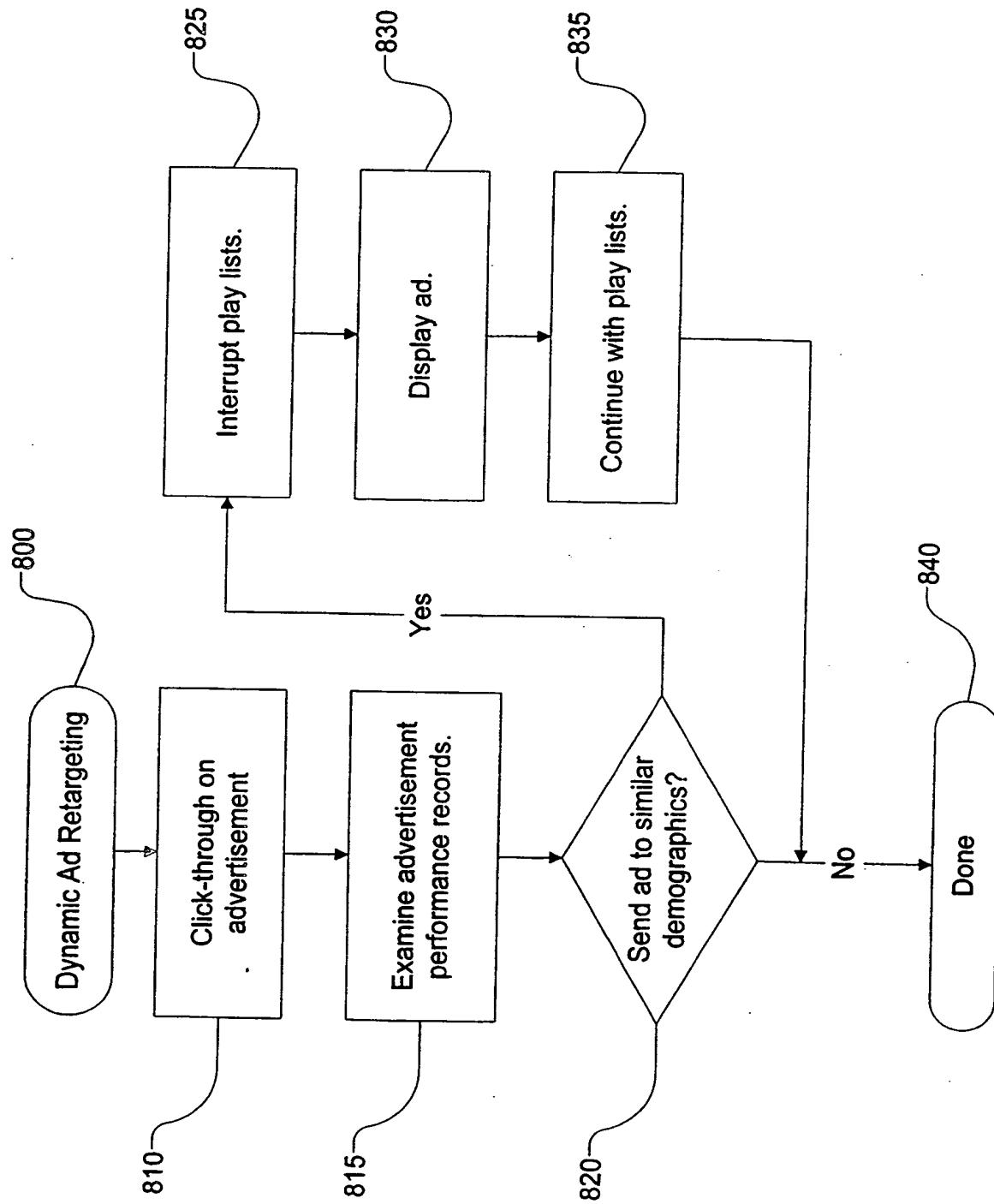


Figure 8